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THE

DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

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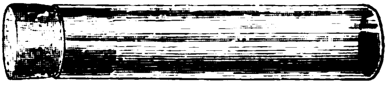

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THE DUBLIN JOURNAL
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PART I.
ORIGINAL COMMUNICATIONS.

ART. I.—*Notes on Ovariotomy.*[a] By SIR WILLIAM STOKES, Surgeon-in-Ordinary to Her Majesty the Queen in Ireland; Examiner in Surgery, University of Oxford, &c.

IN the evolution of Abdominal Surgery which has occurred since I commenced surgical practice, no measure stands out in better relief than the operative treatment of ovarian disease. I can well remember, when a student in Vienna, a gentleman attending the surgical clinique there, and who was a Professor of Surgery in Stockholm, being pointed out to me by one of the students, who whispered with bated breath, "He has performed ovariotomy twice!" I did not learn the results obtained in these cases, but let us hope they were successful

The excitement that the early cases of Mr. Clay, Sir Spencer Wells, and Mr. Baker Brown caused, I have still a clear recollection of, as well as the keen interest that was taken in their work by the *Dii majores* of the surgical profession both here, in London, and on the Continent.

It was chiefly owing, I think, to the way the results obtained by some subsequent ovariotomists were too often put forward, or published, that the opinion or belief was formed in the public as well as the professional mind, that the operation should be strictly confined within the narrow limits of an exclusive specialism; and some even went so far as to hint, in no uncertain manner, that the operating surgeon of a general hospital, who had the hardihood to cross the sacred threshold of gynæcological specialism, was indifferent both to his own reputation and to the welfare of his patient.

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[a] Read before the Surgical Section of the Royal Academy of Medicine in Ireland, Friday, May 1, 1896.

It is hardly necessary for me to dwell on the complete change that has, of late years, come over the scene, and how, owing to improvements in various points in the *technique* of the operation, but especially to our greater familiarity with the principles and practice of aseptic and antiseptic surgery, as elaborated by Lister, the difficulties and obstacles which formerly surrounded the operation have, one by one, been swept away, rendering the pathway to success, in the great majority of cases, clear and reliable, and the operation one now frequently performed with signal success in most of our general hospitals.

The following notes are based on the results I have obtained in the last twelve cases on which I have performed ovariotomy. The operations date from June, 1877. Of these twelve cases, ten were brought to a successful issue, giving a percentage of recovery of over 83. It must, I think, be admitted that this result is, on the whole, encouraging, particularly having regard to the fact that the majority of the operations were performed in hospital structures of considerable antiquity, and some of them before many of the modern appliances and devices for promoting surgical cleanliness now constantly in use by every conscientious surgeon were introduced, and when the methods of maintaining wound asepticism during and subsequent to the operation were not as well understood as they are at present—methods which we know now are so essential, and without which the surgeon is seriously handicapped in his efforts to bring his operation cases to a satisfactory termination. The notes of some of these ovariotomies have already appeared in the *Dublin Medical Journal* and other periodicals, and the tumours removed in all the cases have been exhibited in the Surgical Section of the Academy. The last four cases, however, that I have operated on have not been published, and, avoiding all minute details, I will briefly mention the more important particulars about them.

For the following notes I am mainly indebted to Mr. William Taylor, late House Surgeon to the Meath Hospital:—

Case I.—The first case was that of a patient, aged fifty-two, married, and the mother of three children, who was admitted into hospital on June 19th, 1892, on the recommendation of my friend, Dr. Fraser, of Drumkeeran, Co. Leitrim. She stated that she first noticed the tumour fourteen months previously to her admission. It was globular, fluctuating and movable; resonance was noted in both flanks, but the dulness observable all over the anterior portion of the growth, extending further on the left than on the right side. The circumferential measurements were, at the base of the chest, 31⅝ in., and at umbilicus 38⅜ in. The distance from the xiphoid cartilage to umbilicus 9½ in., and from umbilicus to pubes 10 in. From umbilicus to anterior superior spine on right side 10⅜ in., and on left side 10½in. About six weeks previously to her admission into hospital the tumour was tapped, and a quantity of very thick fluid, like boiled starch, was drawn off. There was absence of pain up to the time the tumour attained its greatest size, when the patient experienced some "soreness" at its upper margin, three months previously to her admission into hospital. This continued increasing in severity. She suffered occasionally from nausea and vomiting in the morning. Menstruation ceased for about two years, but latterly there had been a slight return of it. For about eighteen months she had suffered from "dull aching pains in the loins," which were intensified when she was in the recumbent position. The patient had been married nineteen years, and had her last confinement twelve years ago. She had a miscarriage eight years ago. A second series of measurements were taken on February 2nd, and even in the short interval of time between the first and second measurements a distinct increase was observed. On this date I operated. There were extensive adhesions on the anterior and upper portions of the tumour, which, however, were easily broken down. I then removed 332 oz. of fluid, which was porter-coloured, viscid, and albuminous. The tumour, which consisted of two large and many small cysts, and weighed 8 lbs., was then removed, and the pedicle was found to be a long one. This was transfixed and ligatured, and after a careful toilet of the peritoneum the wound was sutured and treated with dry boric dressings. The progress to recovery of this patient was uninterrupted.

Case II.—The next case was that of a young woman, aged twenty-two, who was admitted into hospital under my care on November 15th, 1894. The abdominal enlargement from which she suffered, she noticed first about twelve months previously. At that time it was more marked on the right side, and she suffered from much pain occasionally in the right iliac fossa. The swelling then increased slowly but steadily. Six months after the tumour first appeared she was advised by Dr. Fraser, of Drumkeeran, to place herself under my care, but she postponed doing so for another six months, at which time the enlargement had greatly increased and was as well marked on one side as the other. Menstruation was quite regular all this time. On admission into hospital the abdomen was found to be swollen up to the ensiform cartilage, and the enlargement uniform. In this case, as well as in most of my other ones, I had the advantage of Dr. Atthill's opinion as to the advisableness of operative interference, and at the operations the assistance of my colleagues, Sir P. C. Smyly and Mr. Hepburn. On Nov. 22nd I operated, making the usual median incision about 4 inches in length. On exposing the cyst I found that there were no anterior adhesions, either recent or old. I then tapped the cyst with a Wells' trochar and evacuated 130 ounces of chocolate-coloured fluid. Owing, however, to the existence of many smaller cysts, I found I could not remove the tumour without materially enlarging the wound. The pedicle was found to be a fairly long one, which I then transfixed and ligatured in the same manner as in the first case. As there was practically no hæmorrhage or escape of any of the fluid of the tumour, I did not deem it necessary to make any diligent "toilet" of the peritoneum, but closed the wound at once and applied dry boric dressings. The subsequent progress of this case was quite uneventful. The wound healed by first intention. One dressing only was applied, and the patient was up on the 15th day after the operation.

Case III.—The next case was that of a married woman, aged forty-five, from Killicannon, Co. Cavan, who was admitted into hospital on August 7th, 1894, having been recommended to me by the late Dr. Mathews. Twelve months previously to her admission she first noticed her menstruation becoming scanty and occurring at longer intervals. Three months after this she observed her abdomen becoming enlarged. After some months this enlargement was accompanied by severe shooting pains. These were relieved by tapping the tumour, which was done on May 15th, when 14½ pints of a dark-coloured fluid were drawn off. After a month the tumour was found to be as large as before. Since the tapping the monthly discharge has been entirely absent, but the pain has not been so marked as previously. The abdominal walls were tense, shining, and over each lateral aspect of the tumour veins largely distended were seen. The tumour was spherical in form, but bulging slightly on the right side, measuring from spina to umbilicus 21½ in. on the right side, and on the left 19 in. On a deep inspiration the tumour moved downwards ½ to ¾ of an inch. From ensiform cartilage to symphysis pubis measured 18 in. There was uniform dulness over the tumour, and some nodules could be felt in the umbilical region, and others extending downwards towards the left flank. The great bulk of the fluid contents appeared to be on the right side.

The examination of the uterus confirmed me in the opinion I formed that the tumour was distinctly ovarian. On August 15th I operated. The abdominal walls were very thin, and on exposing the cyst numerous adhesions were found. These, however, were easily broken down, and the cyst being punctured, 342 ounces of fluid were removed. The pedicle, happily a long one, was transfixed, ligatured, and divided, and there being no hæmorrhage or escape of fluid into the peritoneum, no "toilet" of that structure was resorted to. Deep and superficial sutures were then inserted without any drainage tube, and dry boric dressings applied. Like the last case, the progress to recovery was uninterrupted. The dressings were only changed once on the fifth day after the operation, when the wound being quite healed, the sutures were removed. On the twelfth day the patient sat up for two hours, and on the twenty-first day the patient returned home, since which she has remained in perfect health.

Case IV.—The next and last case I shall at present draw attention to is that of a patient, aged forty, unmarried, who came under my care on September 15th, 1895. She was a pale, sallow-coloured woman, with a somewhat idiotic expression of face, and a very peevish, unhappy, discontented temperament. She stated that the Christmas previous to her admission she first observed the abdominal enlargement. It appeared first on the left side, at the lower part corresponding to the left iliac fossa, and was accompanied with a good deal of pain. As time passed on, the swelling increased until, on admission into hospital, the abdomen was greatly distended with a fluctuating tumour. Dulness was noticed on the front of the tumour and resonance over the right lumbar, but dulness over the left lumbar region. On the morning of the operation the following measurements were taken:—

From umbilicus to symphysis pubis,	7½ inches.
„ „ xiphoid cartilage	9 inches.
„ „ left anterior superior spine	8¾ inches.
„ „ right „ „ „	8 inches.
Circumference of abdomen above umbilicus	34¼ inches.
„ „ below „	36¼ inches.

The existence of ascites was recognised, but from the history and physical character of the enlargement, I held the view which subsequently proved to be erroneous, that it consisted mainly of an ovarian cyst. I do not think any blame should be attached to me or anyone else who examined the tumour for coming to this conclusion, for I do not see how, in the present state of our knowledge, it would be possible to recognise the condition of things that I found at the time of the operation existed.

On September 27th I operated, assisted by Sir P. C. Smyly, Mr. Hepburn, and Dr. Atthill. Mr. Croly and Mr. Ballance, of St. Thomas' Hospital, were also present. On reaching the peritoneum, which apparently was much thickened, and opening it, a copious gush of clear serous fluid took place, and this continued until such a complete collapse of the abdominal enlargement occurred that for a moment I began to apprehend that I had made an error in diagnosis, and that the case was not an ovarian one. However, on the cessation of the flow of serous fluid I enlarged the opening, and passing my hand into the abdomen I grasped the tumour, about the size of a large cocoa nut, and which was in the left iliac fossa, and with difficulty drew it forwards towards the opening in the abdominal wall. This difficulty was caused by the existence of numerous firm adhesions, which existed chiefly on the posterior aspect of the tumour, and also from the fact that there was practically no pedicle. A considerable time was spent in detaching these adhesions, effected chiefly by ligature and division. The cyst, which was very friable and contained only a small quantity of fluid, was opened to ascertain more exactly its nature, and, if possible, from whence it sprang. The base of the tumour was then ligatured in several sections by a blunt needle, made much on the principle of the one known as Reverdin's. The cyst was then removed, and the cut end of the stump lightly touched with the thermo-cautery before being dropped back into the abdomen. The "toilet" of the peritoneum being carried out in the usual way, its divided edges were brought together by a continuous suture of carbolised catgut, after which the edges of the wound were united by means of five interrupted sutures passed deeply through the tissues. Boric dressings were then applied and the patient replaced in bed.

On the 9th day, at the first dressing, the sutures were removed, the wound having completely healed. On the 13th day the patient was allowed to sit up for a short time, and soon after this she returned home.

I feel confident that one of the main causes of the success that, as a rule, now happily attends the operation of ovariotomy is the attention that careful surgeons pay to the preparatory treatment of the patient. This, according to Professor Ashton, of Philadelphia, should be carried out systematically for at least seven days previously to the operation, and consists of "rest, bathing, care of the bowels, regulation of the diet, special antiseptic preparations immediately before operation, and precautions against shock and vomiting." During this time the patient should be kept in bed, excepting, of course, when taking a daily bath, the water of which should be impregnated with an antiseptic such as eucalyptus. The frequent irrigation of the vagina with corrosive sublimate solution (1 to 4,000) is advocated by some surgeons, but is a practice that up to this I have not had recourse to. In the morning of the operation a thorough surgical cleansing of the abdomen is carefully carried out with soap, creolin, and ether, and a piece of lint, folded twice and soaked in a solution of carbolic acid (1 in 40), is laid over the field of operation.

Another element in the preparatory treatment that is strongly advocated by Ashton is the hypodermic injection of sulph. of strychnin ($\frac{1}{16}$ gr.) three times daily. According to him this drug has a signal effect in preventing the occurrence of, or at all events diminishing, post-operative shock. The hypodermic administration, immediately preceding the operation, of morphin ($\frac{1}{6}$ gr.) is, I think, to be commended, and, unless some very decided contra-indication exists, chloroform is the best and safest anæsthetic, being the one least likely to be attended with post-operation nausea and vomiting, the disturbance caused by which militates so strongly against the satisfactory progress of the case. The diet for some days previous to the operation should be of such a character as to leave the bowels as empty as possible at the time of operation. This should be essentially of a sloppy character, and be coupled with a complete abstention from alcohol in any form.

As regards the *technique* of the operation I have little to say that is not to be found in the writings of Sir Spencer Wells, Prof. Ashton, Greig Smith, Mr. Lawson Tait, and other recognised authorities in connection with this operation. From my experience of it I would be disposed to advocate a tolerably free rather than a very limited abdominal incision. This is not in accordance with the views of Mr. Lawson Tait, who, I believe, is in favour of a very limited one. In Germany the pendulum swings in the opposite direction, a common practice being to remove ovarian cysts of considerable size without opening them, and through necessarily large abdominal openings. I would be slow to adopt this method, as I feel sure it must necessarily tend to augment the shock of the operation, and allude to it only from its having reliable credentials, and to point out that the length of the abdominal incision does not apparently injuriously influence the results, which, as a rule, are satisfactory.

But I would say that damage to the edges of the wound would probably result from dragging large tumours, sometimes with solid contents, through them. This has been noted (W. T. Stewart M'Kay), and from *à priori* considerations one would say is likely to occur and slowness in healing follow—results usually observed after any bruising or contusion of a wound.

In reference to adhesions I would say that the number and firmness of them do not appear to me to militate against the ultimate success of the operation, always provided they be properly dealt with; the operator should carefully abstain from forcibly breaking down any ones that do not readily yield to a gentle pressure of the finger or gauze sponge. All the firmer and older adhesions should be carefully ligatured by chromicised or carbolised catgut previously rendered, beyond all suspicion, aseptic, and then divided with scissors. This is particularly necessary when the omentum has become attached to the tumour, that structure being exceedingly vascular. Prof. Ashton suggests a practical point in such cases—viz., in breaking up or dividing firm adhesions, to keep as close as possible to the tumour, there being then much less danger of wounding the hollow viscera. When the adhesions are firm and deep-seated in the pelvis, particular caution is required, as hæmorrhage from the anastomatic vessels between the uterine and ovarian arteries is not unfrequently a source of serious trouble to the operator and danger to the patient. The breaking down or tearing of such adhesions should be avoided. In some cases of this sort Ashton has recommended putting the patient in the Trendelenburg position, but of the value of this plan I cannot speak from personal experience.

In dealing with the pedicle we may now, I presume, regard the extra-peritoneal method as of interest only in a historical point of view to the surgical antiquary, and the division of the pedicle by the cautery, as was formerly practised by Baker Brown, Keith, and others, may be relegated to a similarly deserved limbo. The ligature, which may be employed in a great variety of ways, is now universally adopted, and the material—strong silk—asepticised above suspicion. Gusserow, Martin, and other eminent ovariotomists employ multiple ligatures, but here and in England a single one is usually adopted. Cases, of course, will arise where the pedicle is very short and broad, or—as in the fourth case I have noted in this paper, where there was practically none—where multiple ligatures may be required, but in the great majority of cases a single one is sufficient, and for many reasons is to be preferred. Among these may be mentioned the undesirability of making several punctures in the pedicle, thereby incurring the danger of the formation of hæmatomata, and also that where there are many ligatures there is the danger of some of them not becoming either absorbed or encysted, and acting, in consequence, as sources of irritation and disturbance. To diminish the chances of the formation of hæmatomata, it is desirable to employ a blunt needle. The instrument I have for some time employed is one given to me by my friend and former pupil, Dr. J. Murphy, of Sunderland. It is made on the principle of a

Reverdin's needle, but blunt-pointed. With this the pedicle is transfixed, the ligature caught, and each lateral half of the pedicle then tied. The pedicle is then divided.

The objections urged against the ligature have been based on the alleged danger of sloughing of the stump. The reasons that such apprehensions need hardly be entertained, are pointed out by Mr. Knowsley Thornton. They are that the vitality of the stump is provided for by a central capillary circulation, and also that vascular connections are established by means of adhesions of the stump to the neighbouring peritoneum, and also by the contact of the peritoneum at each side of the ligature favoured by the deep groove made by the ligature into the tissue of the pedicle. It has also been stated that the presence of the ligature favours a hyperæmic condition of the parts, which promotes the adhesive process (Fagan). I should be slow to say that these explanations are altogether satisfactory, but certain it is that if the ligature or ligatures be properly applied, sloughing of the stump is a calamity of which we need not be very apprehensive.

As regards post-operative treatment, it is hard to lay down any definite undeviating rules in consequence of the great variability in the way patients are affected by mental disturbance, before and after the operation, by anæsthetics, and the operation itself. Much, therefore, must be left to the surgeon's discretion, in the exercise of which he will be guided by experience and his own instinctive intuition of what is in accordance with the dictates of surgical commonsense. But, speaking generally, I would say that the rules laid down by Ashton should, in the main, be followed. For the first 24 hours, if possible, nothing in the way of food should be given by the mouth; after this peptonised milk in small quantities or koumiss, and later on chicken broth or carefully-made clear beef-tea; and for a drink, milk in iced soda or potash water will answer best in the majority of cases. For persistent gastric irritation what answers best is a small quantity of dry champagne well iced, or iced soda-water with a teaspoonful of brandy. All drugs should be avoided. In such cases rectal feeding should be resorted to until the tendency to vomiting ceases.

The cases on which I have based the preceding remarks are doubtless few in number in comparison with the stupendous statistics of this operation published by some practitioners. Still the cases will, I think, strengthen the view I hold that the operation should no longer be regarded as belonging exclusively to the limited province of the specialist, but may be undertaken with confidence in the great majority of instances in a general surgical hospital, the hygienic surroundings being suitable, and the operator one who works conscientiously and faithfully, and is possessed of judgment and ordinary manipulative dexterity.

ART II.—*A Case of Purulent Pericarditis treated by Drainage.*[a]

By JOSEPH O'CARROLL, M.D., F.R.C.P.I.; Physician, Richmond, Whitworth, and Hardwicke Hospitals.

IN eighty cases of paracentesis pericardii collected by Dr. Samuel West (*Med. Chir. Trans.*, Vol. LXVI., 1883), thirteen were instances of purulent pericarditis, and of these only two recovered—one a case of his own, the other recorded by Prof. Rosenstein. These two were the only ones which had been treated by free incision and drainage. I have not looked up medical literature for subsequent records, but incidentally I have come across a case of pyopericardium detailed by Dr. Hermann Bronner (*Brit. Med. Journal*, Feb. 14, 1891), which presents many resemblances to my own case in both history and treatment. I shall give the history of my case as briefly as is consistent with a fair presentation of it:—

CASE.—Christopher S., aged twenty, a casual labourer, of intemperate habits, no fixed address and often without the means to procure a lodging—

1st day.—Was suddenly seized on the night of the 19th November, 1895, with great pain in his right side.

2nd day.—He was admitted to the Whitworth Hospital next day, which I shall call the second day of his illness. He was a thin, querulous, ill-nourished man. I found the right side of his chest as resonant as the left, but the expiratory sound seemed slightly prolonged and vesiculo-tubular in character, especially at the right interscapular area—no crepitus or creak. Diagnosis—right lobar pneumonia.

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[a] Read before the Medical Section of the Royal Academy of Medicine in Ireland, on Friday, May 8, 1896.

4th day.—A patch, giving tubular breath sounds in the infrascapular area. Otherwise no further localising signs.

6th day.—Had two attacks of epistaxis, with relief of a headache of which he had been complaining.

8th day.—Crepitus noted for the first time, at right interscapular area; suggestive of *crepidus redux.* Over the remainder of the lung, breath sounds seem more puerile and percussion sounds more tympanitic than on left. There is, in fact, no indication of a localised or delimited lobar dulness. At the infra-clavicular area, however, there is a patch of moderate dulness, and at the sternal end of the first intercostal space there is a fine crepitus with inspiration.

10th day.—He complained of pain in left infra-mammary area; pleuritic friction sound audible there. The area of præcordial dulness reaches 3rd rib. From this and a diminution in intensity of heart sounds and impulse, it was concluded that he had a moderate pericardial effusion. Morphin, ⅛ grain hypodermically, relieved the pain, but it had to be renewed on each of five or six following evenings. Turpentine punch, and other stimulating expectorants were in use at this time.

14th day.—A second attack of epistaxis.

17th day.—Crepitations over the whole area corresponding to right lower lobe. Complaining of pain in his epigastrium.

During the next three days there was a great fall in temperature and pulse-rate without any diminution in number of respirations. Temperature fell from 103·4° and pulse from 156 to 97·5° and 60 respectively, while the respirations remained at 52.

20th day.—These latter figures were taken during my visit on the 20th day. It was manifest that we had to deal with some grave interference with, or inhibition of, the heart, toxic or mechanical or both. I was rather inclined to the theory of a toxic absorption from the lung, although attention was continually paid to the suspected pericardial effusion. During the next few days the pulse-rate increased to an average of about 120, while respirations fell below 50; the temperature stayed about 99°.

26th day.—On the 26th day, examination revealed that the right upper lobe was still dull; that the præcordial dulness extended to the upper border of left third rib, half an inch to the right of the sternum, in the 5th space, and half an inch outside the left nipple; and that the sounds were unduly faint.

29th day.—By the 29th day dulness had extended half an inch farther to right of sternum. The patient stated that pressure in the dull area, and especially in the infra-sternal notch caused him pain, and he complained that he felt his heart jumping. His skin had a leaden hue of partial cyanosis. The pericardium was aspirated in the 4th left intercostal space, about midway between sternum and nipple, or perhaps rather outside this point, and pus to the amount of 30 oz. was withdrawn. This gave much relief; the epigastric tenderness was greatly diminished; the heart sounds became much more audible, and the dull area was reduced in its transverse measurement, though not in its vertical one.

On the 34th day, as I was satisfied that the dull area was again increasing, I had Sir Thornley Stoker to incise the pericardium for me. He did it at my aspiration puncture in the 4th space. There was a free outflow of pus, and no drainage tube was inserted till the next day but one (36th day).

At this date Dr. O'Sullivan, our pathologist, found Fränkel's diplococcus in the pus discharged from the wound.

From this onwards the patient had considerable relief, except for the dressing of the pericardial wound, which gave him always some pain. The introduction of the drainage tube had frequently to be preceded by dilatation of the sinus which gradually came to point from without backwards and inwards, as the anatomists would say, instead of directly backwards. In the process of dilatation I was able to satisfy myself that the pericardium on the heart was distinctly and painfully sensitive to the touch of the sinus-forceps.

On the 48th day the patient complained of pain in the left side, and we found evidence of some pleural effusion on that side. Fearing an empyema, due either to leakage at the drainage wound or to renewed diplococcus infection, I inserted an exploration needle, and withdrew not pus but clear serum. This was to some extent satisfactory, but it was not very reassuring to find that the left lung, as well as the right, was acting as an impediment to a heart so gravely affected itself. Withdrawal of the fluid gave relief, but it was manifest that the heart was unequal to its work. While we had evidence that the pyopericardium had almost ceased to exist, so small was the daily quantity of pus discharged, it was noticeable that the general condition of the patient was deteriorating, and he finally died by simple failure of the heart on the 64th day of his illness.

The necropsy may be summarised by saying that, posteriorly and laterally, the pericardial layers were firmly adherent; in front

was about a drachm of pus, and on the heart and on the parietal pericardium a fibrino-purulent layer. The pericardium was greatly thickened, each layer averaging perhaps 3 mm. The right lung was tightly bound down by thick adherent pleuræ, and was in a condition of collapse in its lower portion, and of fibrotic induration in the upper; the middle lobe contained a plum-sized infarct. The left lung was adherent to the parietes on the outer and posterior aspect and for a small area anteriorly, while the intermediate pleural cavity contained about 6 oz. of clear serous fluid. The liver was nutmeggy; there were infarcts in both kidneys, and the peritoneum contained a few ounces of flaky yellow fluid.

This case is capable of discussion from so many aspects that I am almost deterred from going into any discussion of it at all. I shall content myself with saying that I consider it a case primarily of acute right pneumonia; that within a very few days the pneumococcus infection extended to the pericardium; that there were superadded to the previous symptoms those dependent not merely on weakened heart but those due to the mechanical bulk of the distended pericardium; that the left lung, having to do most of the work, was yet impeded in its function by passive congestion and a pleurisy, in part adhesive and in part serous; and that, finally, the "last straw" being heaped on by the locking up of the heart in a thick inelastic wrapper by cohesion of the pericardium, the circulation came to an end.

As to the treatment, I am satisfied that the pericardium is as tolerant of free drainage as the pleura, perhaps more so. The temperature, pulse, and respiration records of the case show absolutely no disturbance which could be referred to the drainage. Regular washing out of the pericardial cavity was not resorted to; it did not seem to be required, and as it turned out, obliteration of the cavity was almost complete when death occurred; but I may say that I should have no hesitation in washing out the pericardium if I thought it useful, provided that it was done siphon-wise at minimum pressure and with a perfectly free outlet. In fact, on one occasion in this case I did flush out the pericardium in this manner, using a double drainage-tube, and not an antiseptic but an alkaline fluid (bicarbonate of sodium), in order to thin the pus and make it flow out more easily.

With regard to the site of the incision, I am of opinion that it would be better in future cases to enter the pericardium closer to the edge of the sternum—say about three-quarters of an inch from it. In that position the knife avoids the internal mammary artery, on the one hand, and the pleura, on the other, while the subsequent drainage sinus is not likely to be as long as when the outer opening is further away from the normal position of the pericardium. In Dr. Samuel West's case the incision was also made rather far out, and a long sinus formed. But in neither his case nor mine was there any leakage into the left pleura; in both cases an adhesive pleurisy in the infra-mammary area had occurred before the initial paracentesis, and this effectually shut off the pleural cavity from the drainage sinus. Dieulafoy's advice, based on observations on the pericardium distended experimentally *post-mortem*, is to puncture in the 5th space about an inch from the left edge of the sternum. In my case both the initial paracentesis and the subsequent incision were made in the 4th space, and this space was also chosen for the drainage incision in the three cases reported respectively by Rosenstein, West, and Bronner.

With regard to the symptomatology of purulent effusion in the pericardium, it may be useful to say a word or two. In my case fever was present, and moderately high during the first eighteen days; then both temperature and pulse-rate fell to normal or thereabouts for ten days, during which time the respirations became more than twice, and for some days three times as frequent as they should be normally. That is to say, that increase of the cardiac area of dulness, with serious quickening of breathing, point to pericardial effusion, and this may be purulent, even though there be no pyrexia.

A large pericardial effusion secondary to pneumonia may be suspected to be purulent, since we know of that sequence in other parts, but we have additional hint of suppuration in præcordial, and more especially perhaps in epigastric, tenderness. The lesson which I particularly desire to draw from the case is that free drainage of a pericardium full of pus is as legitimate and safe a procedure as drainage of an empyema. I have not the smallest doubt that my case would have recovered but for his previous ill-nutrition and the initial disablement of his right lung.

ART. III. — *The Medicine and Surgery of the Homeric Poems*. By JOHN KNOTT, M.A., M.D., Ch.B., and Dip. Stat. Med. (Univ. Dubl.); M.R.C.P.I.; M.R.I.A.; Fellow of the Royal Academy of Medicine in Ireland; &c.

(*Continued from Vol. CI., Page* 411.)

WHEN the incinerated remains of the human body were at last collected for interment, the details connected with their disposition, as in the previous stages, varied with the wealth and importance of the deceased. In some cases the bones were wrapped in fat—this was done with the bones of Patroclus:—

> Κλαίοντες δ' ἑτάροιο ἐνηέος ὀστέα λευκὰ
> Ἄλλεγον ἐς χρυσέην φιάλην καὶ δίπλακα δημόν.
> —*Iliad*, XXIII., 252-3.

> His mournful friends in fat his bones enclosed,
> Then in a golden urn they them reposed.

The bones and ashes when collected were deposited with affectionate care in urns, which were made of materials varying with the quality of the deceased—wood, earth, stone, silver or gold. These receptacles were variously named: *κάλπαι, κρωσσοί, λάρνακες, ὀστοδοχεῖα, ὀστοθῆκαι, φιάλαι, σοροί*, &c. When the urns contained the remains of very eminent persons, they were frequently adorned with garlands and wreaths of flowers; more usually they were covered with decorative cloths till deposited in the earth. This practice is referred to in connection with the interment of Hector's remains:—

> Καὶ τά γε χρυσείην ἐς λάρνακα θῆκαν ἑλόντες,
> Πορφυρέοις πέπλοισι καλύψαντες μαλακοῖσιν.
> —*Iliad*, XXIV, 795-6.

> —— an urn of gold was brought,
> Wrapped in soft purple palls, and richly wrought;
> In this the sacred ashes were interred.

And a corresponding detail is mentioned in connection with the urn of Patroclus, already referred to:—

> Ἐν κλισίῃ δε ἐνθέντες ἑανῷ λιτὶ κάλυψαν.

In the case of persons who had been bound by very close ties of affection during life, the ashes were sometimes mingled in the same urn for burial. This custom is also illustrated in the case of Patroclus, whose shade, we are told, appeared to Achilles after death, and begged that his bones would be deposited in the same urn which he designed for the subsequent reception of his own. And upon the death of Achilles, we find that his surviving Grecian friends placed the remains of his friend Antilochus with his—but in mere juxtaposition; while they actually mingled those of Patroclus with the ashes of the friend whom he had best loved during life. The ghost of Agamemnon is made the bearer of this information at their meeting in the shades below:—

> 'Εν τῷ τοι κεῖται λεύκ' ὀστέα φαίδιμ' Ἀχιλλεῦ,
> Μίγδα δὲ, Πατρόκλοιο Μενοιτιάδαο θανόντος.
> Χωρὶς δ' 'Αντιλόχοιο, τὸν ἔξοχα τῖες ἁπάντων
> Τῶν ἄλλων ἑτάρων μετὰ Πάτροκλόν γε θανόντα.
>
> —*Odyssey*, XXIV., 76-9.

> Within this urn your sad remains are laid,
> Mixed with the bones of your Patroclus dead;
> In the same Urn Antilochus doth lie,
> His bones not mixed with yours, but placed hard bye;
> For much you did that worthy chief esteem,
> Only Patroclus was preferred to him.

Special ties of consanguinity were sometimes similarly regarded. An instance of this is commemorated in an epigram of Agathias:—

> Εἷς δύ' ἀδελφοὺς ὧδ' ἐπέχει τάφος, ἓν γὰρ ἐπέσχον
> Ἦμαρ καὶ γενεῆς οἱ δύο καὶ θανάτου

> Two brothers lie interred within this urn,
> Both died together as together born.

And we have, in a later age, Euripides making Admetus declare his resolution to place his remains with those of his beloved wife Alcestis:—

> 'Εν ταῖσιν αὐταῖς γάρ μ' ἐπισκήψω κέδροις
> Σοί τε θεῖναι πλευράς. . . .

The Roman practice was similar. Dying lovers thought that the union of their remains after death softened the bitterness of separation. According to Ovid, Thisbe's last request was that she might be entombed with Pyramus:—

> Hoc tamen amborum verbis estote rogati,
> O multum miseri, meus illiusque, parentes,
> Ut, quos serus amor, quos hora novissima junxit,
> Componi tumulo non invideatis eodem.

The fact that the shades of the departed were supposed to be still in love with their former habitations, and acutely felt all accidents that happened to the latter, accounts for the religiously anxious care which was taken of the remains of the dead. The invocation that the earth should press lightly on the graves of the beloved remains of friends and relatives, was, of course, derived from this consideration. Menelaus himself is introduced by a later Greek poet fortifying himself against the horrors of death by the reflection that the Gods took care that those who died with honour should have no sense of the pressure of the superimposed earth, while cowards would be crushed beneath it:—

> *—— εἰ γάρ εἰσιν οἱ θεοὶ σοφοί,*
> *Εὔψυχον ἄνδρα πολεμίων θανόνθ' ὕπο*
> *Κούφῃ καταμπίσχουσιν ἐν τύμβῳ χθονί.*
> *Κακοῖς δ' ἐφ' ἕρμα στερεὸν ἐμβάλλουσι γῆς.*
> *Euripid. Helen.*, 857-860.

> For it the Gods (and sure they all things know)
> Have due regard for Mortals here below,
> They will not, cannot suffer those that die
> By the too pow'rful force o' th' enemy,
> If they with courage have maintained their post,
> And for the public good their lives have lost,
> To be o'erburdened with the heavy weight
> Of earth; but such as stand aghast at fate,
> Base dastard souls that shrink at every blow,
> Nor dare to look on a prevailing foe;
> They shall (nor is the punishment unjust)
> Be crushed and tortured by avenging dust.

Theseus invoked this punishment upon Phædra for her atrocious wickedness:—

> —— istam terra defossam premat,
> Gravisque tellus impio capiti incubet.

Now that the process of cremation has been brought to such a degree of perfection, there is little doubt that it will retain its popularity with a certain section—probably a very limited one—of the members of our latter-day civilised communities. There seems, however, to be very little likelihood that it will ever regain the popularity which it enjoyed among the classical nations who were so devoted to continuous warfare. There exists, indeed, one feature connected with the modern process of cremation which must appeal very strongly to the feelings of a certain number of its votaries. It reduces the remains of the dead to a very small and easily preserved quantity of incorruptible matter; and, accordingly, a modern urn is a much more convenient and hygienically perfect receptacle for the *débris* of the dead body than any of the corresponding ones of classical times could ever have been. This renders more convenient, and more pleasant, the retention of the small imperishable portion of the body of a beloved friend or relative. There is at present an English lady of title—an intimate friend of a patient of mine—who on every anniversary of her late husband's death dines alone, with the urn which contains his ashes placed on the dining-table opposite the chair which he used to occupy. This is at least a more delicate tribute to the memory of a lost spouse than was that of the case related by Brantôme, who tells us that in his day—"Une dame de la cour . . . portait en relique les parties génitales de son mari mort, parfumées, embaumées, et renfermées dans un étui d'argent doré." And it indicates a more healthy, and, accordingly, a more lasting form of affection than the rather hysterical action of Artemisia, who swallowed the ashes of her brother-husband in her drink, and immortalised his memory by the construction of one of the world's "Seven Wonders."

Readers of the superstitious and the marvellous will remember the stories of the incombustibility of the heart of Germanicus, and of the great toe of Pyrrhus; whose innate virtues, which had often been displayed to such advantage during life, were found to preserve them even after death from the attacks of the most destructive of all the agencies known to man. To such relics supernatural virtues must necessarily be attributed; we read of a gouty patient, in the burning agony of a paroxysm, crying out:—

> O for a toe, such as the funeral pyre
> Could make no work on—proof 'gainst flame and fire;
> Which lay unburnt when all the rest burnt out,
> Such amianthine toes might scorn the gout
> And the most flaming blast the gout could blow
> Prove but an *ignis lambens* to that toe.

The illustrious author of the *Religio Medici*, in discussing the practice of cremation and "*Urn-burial*," in connection with the pre-Christian Greek ideas of the resurrection of the body and the immortality of the soul, observes:—"Lucian spoke much truth in jest, when he said that part of Hercules which proceeded from Alcmena perished, that from Jupiter remained immortal. Thus Socrates was content that his friends should bury his body, so they would not think they buried Socrates; and regarding only his immortal part, was indifferent to be burnt or buried."

Admirers of the writings of the author of "Robinson Crusoe" will remember that in the course of the "Voyage to the World of Cartesius":—"Designing to run over that whole *Hemisphere* of the Moon that is opposed to *our Earth* . . . we came to the *Lake of Dreams*, on whose Banks we found three separate Spirits, . . . We surprized the two first, stoutly Cursing and Banning their Wives they had formerly in the World. One of which was, that *Hermotimus* mention'd by *Tertullian* and *Pliny*, who leaving his Body abed, to make a Ramble, as his Custom was, his Wife, that did not love him, slipt not the opportunity of calling up her Servants, to whom she shewed, not without tearing her Hair and playing the Madwoman, the Body of her Husband unsoul'd and breathless, and carried the Humour on so well, that the Body was burnt, according to the custom of the Country, before the Soul return'd, who was from thenceforth forced to seek another Habitation. The other Spirit was a *Roman Senator*, whose Name was *Lamia*, whose Wife had trickt out of the World by the same Project, though, a little more it had miscarried. For as he related it, the Soul being returned to look its body, where 'twas left, not finding it, and seeing the Family Mourning, began to smell how the matter stood: It Posted presently to the place where was built the Funeral Pile to burn the Body, and arriv'd there, just as the Fire began to seize it. The Soul thought it inconvenient to reunite herself with it, for fear it might be obliged to be burnt alive, she only mov'd its Tongue, so as many of the Standers by heard these Words twice distinctly repeated, *I am not dead, I am not dead.* But seeing the Masters of the Funeral Ceremonies, who had undoubtedly received an *Item* from the Dame, unconcerned as 'ere, she left it to be burnt, and came to fix in the *Globe of the Moon.*"

With these specimens of physical and moral vagaries connected with the history of the practice of cremation, we close our remarks on that subject, and pass on to the consideration of our author's pronouncements on

THE USE AND ABUSE OF WINE.

Οἰνοβαρές, κυνὸς ὄμματ' ἔχων, κραδίην δ'ἐλάφοιο·
—*Iliad* I. 225.

Ἰδομενεῦ, περὶ μέν σε τίω Δαναῶν ταχυπώλων,
Ἠμὲν ἐνὶ πτολέμῳ, ἠδ' ἀλλοίῳ ἐπὶ ἔργῳ
Ἠδ' ἐν δαίθ', ὅτε πέρ τε γερούσιον αἴθοπα οἶνον
Ἀργείων οἱ ἄριστοι ἐνὶ κρητῆρσι κέρωνται.
Εἴπερ γάρ τ' ἄλλοι γε καρηκομόωντες Ἀχαιοὶ
Δαιτρὸν πίνωσιν, σὸν δὲ πλεῖον δέπας αἰεὶ
Ἕστηχ', ὥσπερ ἐμοί, πιέειν, ὅτε θυμὸς ἀνώγῃ.
—*Id.* IV. 257-263.

Ἀλλὰ μέν', ὄφρα κέ τοι μελιηδέα οἶνον ἐνείκω,
Ὡς σπείσῃς Διῒ πατρὶ καὶ ἄλλοις ἀθανάτοισι
Πρῶτον· ἔπειτα δέ κ' αὐτὸς ὀνήσεαι, αἴ κε πίῃσθα·
Ἀνδρὶ δὲ κεκμηῶτι μένος μέγα οἶνος ἀέξει,
Ὡς τύνη κέκμηκας, ἀμύνων σοῖσι ἔτῃσι.
—*Id.* VI. 258-262.

Νῦν μὲν κοιμήσασθε τεταρπόμενοι φίλον ἦτορ
Σίτου καὶ οἴνοιο· τὸ γὰρ μένος ἐστὶ καὶ ἀλκή·
—*Id.* IX. 705-6.

Ἀλλὰ πάσασθαι ἄνωχθι θοῇς' ἐπὶ νηυσὶν Ἀχαιοὺς
Σίτου καὶ οἴνοιο· τὸ γὰρ. μένος ἐστὶ καὶ ἀλκή.
Οὐ γὰρ ἀνὴρ πρόπαν ἦμαρ ἐς ἠέλιον καταδύντα
Ἄκμηνος σίτοιο δυνήσεται ἄντα μάχεσθαι.
Εἴπερ γὰρ θυμῷ γε μενοινάει πολεμίζειν,
Ἀλλά τε λάθρῃ γυῖα βαρύνεται, ἠδὲ κιχάνει
Δίψα τε καὶ λιμός, βλάβεται δέ τε γούνατ' ἰόντι.
Ὃς δέ κ' ἀνὴρ οἴνοιο κορεσσάμενος καὶ ἐδωδῆς,
Ἀνδράσι δυσμενέεσσι πανημέριος πολεμίζει.
Θαρσαλέον νύ οἱ ἦτορ ἐνὶ φρεσίν, οὐδέ τι γυῖα
Πρὶν κάμνει, πρὶν πάντας ἐρωῆσαι πολέμοιο.
—*Id.* XIX. 160-170.

There is ample evidence in the Homeric poems, as well as in the writings of the Greek poets of after ages, to show that the practice of their country was decidedly in favour of a liberal use of stimulants by its leading and otherwise responsible men. The Grecian heroes, throughout the whole of the action of the Iliad, are made to eat and drink heartily, even when their sagest councils were sitting. Nestor himself, the combined Nathan and Solomon of the siege of Troy, appears to have been a hearty drinker during the whole of his long and exemplary, sage career. How well their descendants in the after centuries continued to maintain the Greek reputation for conviviality, is well shown by the language of Plautus:—

> Atque ut cum solo pergræcetur milite.
> —*Truculentus*, Actus I., Scena I., v. 69.

And:

> Dies noctesque bibite, pergræcamini.
> —*Mostellaria*, I., I. 21.
>
> . . . Agite porro, pergite
> Quomodo occoepistis: bibite, pergræcamini.
> —*Id*, *ib.* 61.

So thoroughly have some classical scholars become imbued with this idea, that they attribute some of the highest characteristics which still throw a halo around the memory of the ancient Greek poets and sages to their loyal and practical devotion to the worship of Bacchus. A very high authority on classical lore, and mediæval, as well as ancient, history, has expressed the opinion that "the Greeks were called *Fathers of Wisdom* on account of the excellency of their wines, and lost their ancient lustre by reason of the Turks rooting out their vines." The fact that in Homeric times the Grecian women—both married and maiden—were allowed to indulge in the use of wine, is exemplified by the case of Nausicaa and her companions (*Odyssey*, VI.). Even children, at least the highly-favoured ones, were given wine to promote their growth and strength. This is shown by Homer in his description of the infant training of Achilles; the poet makes Phœnix remind his hero—

> *Πρίν γ' ὅτε δή σ' ἐπ' ἐμοῖσιν ἐγὼ γούνεσσι καθίσσας*
> *Ὄψου τ' ἄσαιμι προταμὼν, καὶ οἶνον ἐπισχών.*
> *Πολλάκι μοι κατέδευσας ἐπὶ στήθεσσι χιτῶνα,*
> *Οἴνου ἀποβλύζων ἐν νηπιέῃ ἀλεγεινῇ.*
> —*Iliad*, IX. 488-491.

Such practice is in striking contrast with the rigid domestic discipline of the Romans, among whom the claudestine use of wine by a married woman was sometimes punished with death by the enraged husband—the law placing her life completely in his power; and among whom some classical antiquarians would have us believe that the practice of *kissing* was instituted merely for the purpose of detecting the tell-tale odour of secret potations.

Accordingly, the insulting epithet (*οἰνοβαρὲς*), with which Achilles opens his decidedly Billingsgate style of address to the Grecian leader who had enraged him, must have had reference to the *abuse*—and not the moderate *use*—of the national beverage.

The fact that a special deity was created by the Greeks for the purpose of carrying out the single function of the introduction of wine and the regulation of its consumption, gives emphatic corroboration to the copious evidence supplied in the verses of the Iliad and Odyssey to the fact that the free use of wine was a popular indulgence with the members of those wonderful little commonwealths of warriors and philosophers, from the earliest dates to which the records of history or of fable can reach. The revelation of the beneficially exhilarating effects of the fermented juice of the grape was attributed by the Egyptians to their dignified Osiris, and by the Latins to their ponderous Saturn—to each of whom humanity was further indebted for sundry other gifts of national importance. But the Greeks paid the tribute of divine honours to their gay and jovial Bacchus in return for his one great boon to their nation—of having taught them how to banish care and quicken thought by the judicious use of alcoholic stimulants.

We are informed, on the authority of Hecatæus the Milesian, that the *use* of wine was discovered in Ætolia by Orestheus, the son of Deucalion. Accordingly, this original record drops one generation behind that of the discovery of the *abuse* of the same genial beverage by the single progenitor of post-diluvian humanity, as it has been recorded for us in the Mosaic history. It goes, however, almost without saying, that the authorities of Grecian theology differ upon this, as well as upon other leading topics of religious history. Some attribute the discovery of the use of the expressed juice of grapes for purposes of stimulation to Oeneus, the grandson of Orestheus—from whose name they have derived that of wine (*οἶνος*). Thus, Nicander:—

> *Οἰνεὺς δ' ἐν κοίλοισιν ἀποθλίψας δεπάεσσιν*
> *Οἶνον ἔκλησε.* . . .

and Melanippides—

> *Ἐπώνυμος, ὦ δέσποτ', οἶνος Οἰνέως.*
> [*Athenæus*, *Deipnosophista*, lib. I.]

The dilution of wine with water was practised in Homer's time:—

> *Οἱ μὲν ἄρ' οἶνον ἔμισγον ἐνὶ κρητῆρσι καὶ ὕδωρ.*
> *Odyssey*, I., 110.

We are told that Amphictyon, King of Athens, was taught by Bacchus himself how to temper wine with water; and that in gratitude for this important revelation he dedicated an altar to that deity under the name of *'Ορθιος*, which he derived from the circumstance that from that time men began to return from public entertainments sober, and, accordingly, *ὀρθοι* (*upright*). The larger proportion of the Greeks, however, still preferred to take their wine undiluted—this was especially the case with the Lacedemonians. *Εἰς τὸ πῦρ ἐῶσι τὸν οἶνον, ἕως ἂν τὸ πέμπτον μέρος ἀφεψηθῇ, και μετὰ τέσσαρὰ ἔτη χρῶνται*—used to boil their wine upon the fire till the fifth part was consumed, and then, after four years were expired, began to drink it (*Democritus*—in *Athenæus*). The practice of drinking wine without water was very generally known as *ἐπισκυθίζειν*—to act like a Scythian — the Scythians being proverbially hard drinkers.

The Egyptian discovery of the use of wine has been referred to one of their smaller towns—Plinthion. It is of some interest in this connection to note that the latter people used to prepare, for the consumption of the poorer class of drinkers, an intoxicating beverage made from barley. This carries back the superhuman achievements of "John Barleycorn" even further than do the records of our Caledonian annalists.

(*To be continued.*)

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

The Johns Hopkins Hospital Reports. Vol. V. Baltimore: The Johns Hopkins Press. 1895. Pp. 481.

IN this volume we have three works, all of the very highest order, and of the greatest value and interest.

The first, by Drs. W. S. Thayer and J. Hewetson, gives an exhaustive account of *the malarial fevers which occur in Baltimore*, in the form of an analysis of 616 cases, with special reference to the relations existing between different types of hæmatozoa and different types of fever.

The work, which extends to 218 pages, is divided into several chapters. After a few preliminary remarks, the literature of the malarial parasite and of the fevers caused by it is exhaustively studied. Then follows the general analysis of the 616 cases; an account of the hæmatozoa observed; a general analysis of 544 cases in which the type of organism was clearly distinguished; an analysis of the types of fever associated with infection with the different types of organisms; chapters on the nature and significance of the crescentic bodies of Laveran, on the flagellate bodies, and on the action of quinine. Then follow the general conclusions, which we reproduce as far as our space allows:—

"Malarial fever is rare in Baltimore during the winter months; becomes more frequent as the season advances; reaching a maximum in September. Most cases occur during August, September, and October.

"Any difference between the susceptibility of individuals of different ages and sex depends apparently only on the varying chances of exposure to infection. The relative susceptibility of the negro is two-thirds less than that of the white population. Three varieties of the malarial parasite have been distinguished by the authors—1. The tertian parasite; II. The quartan parasite; III. The æstivo-autumnal parasite.

"I. The *tertian parasite* requires about forty-eight hours to accomplish its complete development, and is associated with relatively regular tertian paroxysms, lasting, on an average, between ten and twelve hours, associated almost always with the three classical stages—chill, fever, and sweating. Frequently infection with two groups of tertian organisms gives rise to quotidian paroxysms; rarely infection by multiple groups of organisms gives rise to more irregular, sub-continuous fevers.

"II. The *quartan parasite* is an organism requiring about seventy-two hours for its complete development. It is rare in this climate, and is associated with a fever showing regular quartan paroxysms, similar in nature to those associated with the tertian organism. Infection by two groups of the parasites causes a double quartan fever (paroxysms on two days, intermission on the third). Infection with three groups of the parasite is associated with daily paroxysms.

"III. The *æstivo-autumnal parasite* passes through a cycle of development, the exact length of which has not as yet been determined; it probably varies greatly, from twenty-four hours or under to forty-eight hours or more. But few stages of development of the parasite are found ordinarily in the peripheral circulation, the main seat of infection being apparently in the spleen, bone marrow, and other internal organs. Infection with this organism is associated with fevers varying greatly in their manifestations. There may be quotidian or tertian intermittent fever, or, more commonly, more or less continuous fever with irregular remissions. The individual paroxysms last, on an average, about twenty hours. The irregularities in temperature depend probably upon variations in the length of the cycle of development of the parasite, or upon infection with multiple groups of organisms.

"We have not been able to separate two distinct varieties of the æstivo-autumnal parasite, although we feel that more investigation is needed upon the subject.

"The cases of malaria in the spring and early summer are of the milder, more regularly intermittent varieties (tertian and quartan fever); the severe æstivo-autumnal infections beginning to appear only in the later summer, and reaching their maximum in September.

"The coloured race, while showing a relative insusceptibility to malarial infection, is equally susceptible to the various forms. The infections which occur are, however, more apt to take a simpler, milder course—the single tertian cases, for instance, outnumbering the cases of double tertian fever.

"The majority of all the cases of malarial infection in this climate depend upon the tertian parasite. These tertian infections form the vast majority of all the cases in the first half-year, but occur throughout the malarial season. The majority of infections during the height of the malarial season depend, however, upon the æstivo-autumnal parasite.

"The earliest cases of tertian infection are more commonly single in nature, while as the season advances double tertian infections become more common.

"Nothing in our experience has led us to believe that these varieties of the parasite are interchangeable. They are, we believe, distinct varieties, though closely allied to one another biologically. Combined infections with parasites of different varieties may occur, but they are rare—forming less than 2 per cent. of all the cases which we have observed.

"The crescentic bodies, associated with the æstivo-autumnal parasite, develop from the small hyaline forms. We have seen nothing to support the views of Mannaberg, that they are the result of conjugation We have never seen sporulating forms which we believe to have developed from crescents. We are not, as yet, inclined to accept the view that these are degenerate forms; we believe that their true nature is still undetermined. The nature of the flagellate bodies, which may develop in all types of malarial fever, is not yet determined.

"The specific action of quinine upon these three varieties of the parasite is undoubted. It exerts its influence most strongly when the parasite is undergoing the process of segmentation, before the entrance of the fresh segments into new red corpuscles. It is best administered then just before the beginning of a paroxysm, if we wish to obtain the greatest effect with a single dose. The action is much more rapid and certain in the tertian and quartan fevers than in the æstivo-autumnal infections."

A very complete bibliography is appended, giving references to 359 works, arranged in chronological order. An appendix notices some papers published too late to find their place in the chapter on the literature.

Two beautifully executed plates and several charts illustrate this paper, which cannot fail to rank among the classical works on malaria.

The second work in this volume is "*A Study of some Fatal Cases of Malaria*," by L. F. Barker, M.B. Four cases are detailed—three of æstivo-autumnal malaria and one of double tertian, associated with general streptococcus infection. In connection with this latter case valuable remarks are made on the frequent occurrence of a bacterial infection, such as pneumonia, typhoid, ulcerative endocarditis, erysipelas, with malarial infection, while the latter may also co-exist with other forms of protozoan infection, as dysentery due to amœba coli. In the third case inflammatory and necrotic lesions were found in the liver, giving rise to cirrhotic changes.

Two most suggestive chapters follow—one on the unequal distribution of the parasite in the body in malarial infection, by which much light promises to be thrown on the variety in the symptoms manifested in different cases, and another on phagocytosis in malaria. In this section the numerous objects—red corpuscles, white corpuscles, parasites, pigment, &c., which are found within phagocytes are fully noticed, and the question as to whether latent infection can be explained by the inclusion of parasites in phagocytes is discussed. This paper throughout manifests evidence of the patient industry as well as of the skill and sagacity of the author. It is a very remarkable and most important contribution to pathological anatomy. Four excellent plates illustrate the work.

The third paper is the work of five authors—Drs. Osler, Flexner, Blumer, Reed, and Parsons. It is a continuation of "*The Studies in Typhoid Fever*," contained in the fourth volume of the Hospital Reports, and which we fully noticed some time ago in the *Dublin Medical Journal*. In that Report 229 cases were dealt with; in the present paper 160 further cases are considered. These were treated to conclusion during the fifth and sixth years of the Hospital, to May 15th, 1895. A general analysis and summary of the cases by Professor Osler gives the age, sex, nationality, race, and dwelling place of the patients, together with the season of the year and the mortality:—In the fifth year 81 cases, mortality 6·1 per cent.; in the sixth year 79 cases, mortality 8·8 per cent. Mortality in whole 160 cases, 7·5 per cent. Of 389 cases treated in the whole six years, mortality 8·7 per cent.; of 356 cases, treated during the last five years since the introduction of the Brand method of treatment, mortality 7·03 per cent.; of 299 bathed cases, mortality 6·6 per cent.

In the second section Dr. Osler analyses the special features, symptoms, and complications which were observed.

As regards the *taches bleuâtres*, of which only two cases were met with, Dr. Osler quotes and apparently endorses the opinion of Dr. Hewetson in favour of the pedicular origin of these marks. It appears that the Austrian soldiers look on the pediculi as bearers of good luck, and these parasites have a market value of from 5 to 10 kreutzers. Relapses occurred in 8·7 per cent., while in 11 cases well-marked transient elevations of temperature occurred during convalescence.

In 12 cases hæmorrhage occurred. Three proved fatal, two of them from perforation. In most cases the bleeding was very slight, and in no case did the fatal result follow directly upon profuse hæmorrhage. Taking the whole 389 cases hæmorrhage occurred only in 5·1 per cent., while perforation caused death in 3·3 per cent. Two cases are detailed where perforation was probable, but recovery took place.

As a result of five years' experience with the *cold bath treatment*, Dr. Osler comes to the conclusion that it appears to save from 6 to 8 in every hundred of cases treated. The general rate of mortality in Europe and America being 15 to 20 per cent. "While I enforce the method for its results, I am not enamoured of the practice. I have been criticised rather sharply for saying harsh words about the Brand system. To-day, when I hear a young girl say that she enjoys the baths I accept the criticism and feel it just; but, to-morrow, when I hear a poor fellow (who has been dumped, like Falstaff, 'hissing hot' into a cold tub) chattering out maledictions upon nurses and doctors, I am inclined to resent it, and to pray for a method which may be, while equally life-saving, to put it mildly, less disagreeable."

Dr. G. Blumer treats of the occurrence of *pus in the urine in cases of typhoid.* From the urine four bacilli were isolated usually in pure culture—the colon bacillus, the typhoid bacillus, the staphylococcus albus, and an unidentified coccus. These may reach the urine from the kidneys or bladder. In the kidney their source may be the typhoid lymphomata, to which the presence of typhoid bacilli are always due, or a definite nephritis, while the bladder may be infected from the implicated intestine, as has been proved experimentally. On the whole, pyuria, although fairly common, is not a serious complication. The presence of typhoid bacilli in the urine makes the patient a source of danger.

Perhaps the most important section is that in which Dr. Flexner describes *certain forms of infection in typhoid fever.* From these cases it appears that typhoid bacilli may cause a general septicæmia, and, without the intervention of other organisms, produce suppuration; that mixed infections frequently occur in typhoid, and that in the later stages typhoid bacilli may be absent, while infection by colon bacilli from the injured intestine may occur. Our space forbids us to give any summary of these cases, but their history and the remarks of the author cannot be too strongly recommended to the notice of every one interested in pathology.

Dr. Reed shows that the so-called *lymphoid nodules in the liver* are really spots of necrosis of liver cells, which are replaced by well-defined areas of localised connective tissue; that the lesions are in some way due to the typhoid bacilli, and that similar lesions can be caused in the livers of rabbits by injection of pure culture of typhoid bacilli into a mesenteric vein.

Dr. Osler treats of *neuritis following typhoid fever,* and Dr. Parsons of the *post-typhoid bone-lesions.* These take the form of periostitis, with or without necrosis and suppuration. In the latter cases the typhoid bacilli are found in the pus, either alone or mixed with other organisms. The length of time during which the wound remains uncontaminated, and during which the typhoid bacilli may be present is remarkable. Thus Sultan found the typhoid bacilli in pure culture in a sinus which had been discharging six years, and Buschke reports an abscess of the rib in which typhoid and other organisms were found after seven years.

Finally, Dr. Osler has two chapters—one on *chills (rigors) during typhoid*, and the other an *analytical study of the twelve fatal cases.*

The Treatment of Phthisis. By ARTHUR RANSOME, M.D., M.A. (Cantab), F.R.S.; Consulting Physician to the Manchester Hospital for Consumption and Diseases of the Chest and Throat; Examiner in Sanitary Science at Cambridge and Victoria Universities. London: Smith, Elder & Co. 1896. 8vo. Pp. 237.

"THE present work has been written in the hope that its contents will increase the courage of the physician in face of this terrible malady (phthisis), and will also provide him with arms with which he may successfully combat it." It "is based upon experience gained partly in private practice, and partly during long and constant work at the 'Manchester Hospital for Consumption and Diseases of the Throat.'"

The foregoing quotations from his Preface indicate the nature and scope of Dr. Ransome's latest contribution to the literature of both Preventive and Curative Medicine.

Dr. Ransome brings to his task a ripe experience. His "Milroy Lectures," delivered in 1890, were on "The Causes and Prevention of Phthisis." Those lectures were delivered before Koch's discovery of tuberculin in 1890, but with a full knowledge of the causal relationship which existed between the *Bacillus tuberculosis* and pulmonary consumption, and which had been established by Koch in the year 1882.

The work now before us consists of fourteen chapters and an appendix. At the outset the author avows himself a believer in the curability of phthisis either by the "Vis medicatrix Naturæ" or by the "Ars Medendi" (page 10).

We share his faith, and look forward to the time when his creed will be universally accepted.

The essentially practical character of the book is early shown, for the second chapter is on the ætiology and pathology of phthisis in *relation to treatment.* When we have read this chapter, we cannot help saying to ourselves, "Well, after all, what we should do is to help Nature in her vigorous and unceasing efforts to combat the disease." Chapter III. clearly points out the limits of infection, and its whole tendency is to allay the "consumption-scare."

Dr. Ransome is, like Laennec, a believer in re-infection in phthisis. And, indeed, his arguments are incontrovertible. It may be interesting to recall the fact that the great French physician himself fell a victim to a second infection more than twenty years after the first. In 1799, while examining some tuberculous vertebræ, he slightly grazed the forefinger of his left hand with the saw. Within a few days a typical tuberculous neoplasm developed, which he cauterised with the deliquescent chloride of antimony and so eradicated the tumour. In 1819 he was apparently quite well. In 1822 he had to give up his practice owing to phthisis, of which he died in 1826.

When discussing the preventive measures to be adopted against phthisis, Dr. Ransome quotes his own experience as to the freedom from the disease enjoyed by dwellers on a dry, sandy subsoil, such as that upon which the town of Bowden, in Cheshire, stands. At page 65 there is a sentence which should be written in letters of gold. It runs as follows:—

> "Fresh air, day and night, must be admitted to all living rooms and bedrooms; and the present foolish dread of what is called 'night-air' must be overcome. Light, too, which is now often excluded from a fear of spoiling the furniture, &c., must be admitted as freely as possible; and must come to be regarded as—what it is, indeed is—Nature's best gift for the prevention of disease."

Speaking of prophylaxis, Dr. Ransome thinks "it would be a good thing, both for the consumptive and for his doctor, if a fixed monthly or annual payment could be substituted for the charge per visit. There could then be no unworthy suspicion as to the motive for constant attendance and supervision." (Page 74.)

The subject of treatment takes up considerably more than half the book. The question is discussed under the headings: Prophylaxis, hygienic measures, open-air and climatic treatment, medicinal treatment, inhalations, treatment of tubercular laryngitis, abscesses, and so on, and of symptoms and complications. A final chapter (XIV.) is on the treatment of different forms of phthisis. An "Appendix" includes a leaflet on the Prevention of Consumption, and recommendations as to the cleansing of rooms occupied by consumptive patients, which have been adopted by the Bournemouth Medical Society.

Sound, judicious, and practical are the author's views on treatment. Dr. Ransome has long since won his spurs in the domain of Preventive Medicine. He is equally able in that of Curative Medicine. This book is worthy of his high reputation in both spheres.

Transactions of the Royal Academy of Medicine in Ireland. Vol. XIII. Edited by WILLIAM THOMSON, M.A., F.R.C.S., General Secretary; Surgeon to the Richmond Hospital. Dublin: Fannin & Co. 1895. Pp. 464.

THE Report of the Academy for 1893–94 laments the loss of Drs. Barton, M'Veagh, and Baxter. Since it was signed the Academy and the profession have sustained an even greater loss—its ex-President, Dr. G. H. Kidd, having passed away.

The quality of the papers read before the Sections—with many of which our own pages have made our readers familiar—is nowise deteriorated. We cannot but think that opening Addresses by the General and the Sectional Presidents might be delivered with advantage. In the Section of State Medicine a Presidential Address might be made a valuable means of instructing the public, as well as the profession, in sanitary subjects. In numbers the Academy shows no increase, we regret to observe. We regret still more to find that it is losing the very feeble attractive powers it had upon the students. At the close of the year *two* Student Associates were on the roll!

The volume opens with a very interesting and practical paper by Dr. J. W. Moore, "A Case of Small-pox and its Lessons." He places on a scientific basis the empirical treatment of variola by exclusion of light from the pustulated surface, or by John of Gaddesden's method—surrounding the patient with "red curtains, red walls, and red furniture of all kinds." Protection from the action of the actinic rays prevents, there is good reason to believe, pitting and disfigurement, and is otherwise favourable to recovery. The paper concludes by pointing out that the recent Dublin epidemic confirmed the empirical law connecting atmospheric temperature with the prevalence of variola—"When the mean temperature of the air falls below 50°, small-pox has a tendency to assume a distinctly epidemic form."

Of no less interest and importance is Mr. Kendal Franks' paper, read in the Surgical Section, on "Adenoid Vegetations in the Naso-Pharynx," a subject which does not always receive the attention it deserves. The removal of these growths is an operation of no special difficulty, and is followed by most satisfactory results. We fully endorse the author's concluding words:—"There are few operations which can show so much after-good to the patient as the removal of adenoid vegetations from the naso-pharynx."

Some recent abuses of the system of boarding-out lunatics have tended to discredit it slightly, and we are glad to find it strongly advocated by so experienced an authority as Dr. Conolly Norman, in a paper read before the Section of State Medicine, on "The Domestic Treatment of the Insane." He shows that the Gheel system is imitable, and has already been imitated with success. A colony has been established at Lierneux, in the province of Liège, in which, in 1892, 349 patients resided. In France, near Bourges, a colony for senile dements gives excellent results. "The poor old men and women seem to be generally happy and contented. Few of them express any desire to return to the asylum; they appear to be well cared for; no accident, no scandal has occurred; they do little work, being generally physically unfit for much exertion. It has been justly said of this particular colony that it is a colony not of work but of rest." In Berlin a system similar, but in some respects superior, to the Scottish boarding-out has been adopted with great success, financial and sanitary.

In the discussion which followed Dr. Winifred Dickson's paper (in the same Section) on the "Need for Women as Poor-Law Guardians," the opinion of the speakers seems to have been unanimously favourable to her views—in which we ourselves heartily concur. There are few boards of guardians that would not be the better of such "sweetness and light" as educated women would impart.

Twentieth Century Practice. An International Encyclopædia of Modern Medical Science by Leading Authorities of Europe and America. Edited by THOMAS L. STEDMAN, M.D., New York City. Volume V. Diseases of the Skin. London: Sampson Low, Marston & Co., Limited. 1896. Large 8vo. Pp. 905.

YET another instalment of this great work. The subject matter of this fifth volume of Twentieth Century Practice must enlist the interest of the profession in all parts of the world. Nor will that interest be lessened when the reader glances down the list of contributors. Charles W. Allen, of New York; John T. Bowen, of Boston; L. Brocq, of Paris; L. Duncan Bulkley, of New York; H. Radcliffe Crocker, of London; John Nevins Hyde, of Chicago; Moriz Kaposi, of Vienna; H. Leloir, of Lille; Douglass W. Montgomery, of San Francisco; Arthur Van Harlingen, of Philadelphia; and Henry H. Whitehouse, of New York—such is the galaxy of dermatological talent which Dr. Stedman has gathered together for the purposes of this volume.

It is possible to write only in general terms of the merits and demerits of their work. Glancing through the volume, we cannot resist the impression that a work on skin diseases should be more liberally illustrated than this is, and that black and white sketches fail to do justice to the appearances in such an affection of the skin as xeroderma pigmentosum (pages 730 and 731). Eczema, psoriasis, pemphigus, the various forms of erythema, and other like diseases are not illustrated at all. Surely it would have been possible to insert in this large and (so far as subject-matter and letterpress go) most interesting volume half a dozen artistic coloured illustrations of skin disease.

Having said so much we have almost exhausted our hostile criticism of the volume before us. We notice, however, that Dr. Bowen, when writing on benign neoplasms of the skin, describes molluscum epitheliale under Bateman's old name "molluscum contagiosum." It is indeed true that the contagious origin of the affection may now be regarded as proved. Dr. Bowen endorses it without hesitation, and apparently with good reason. Nevertheless, the name molluscum epitheliale is more scientific, more instructive, and contrasts the disease better with molluscum fibrosum.

The first article is by Dr. Allen, who writes on the anatomy of the skin and its appendages. "Parasitic Diseases" are done full justice to by Dr. Duncan Bulkley, whose name alone is sufficient to command the reader's attention. This article is the best illustrated in the volume. Erythematous affections are described by Dr. Henry Whitehouse, of the New York Skin and Cancer Hospital. Dr. Nevins Hyde takes eczema and dermatitis for his topic. In discussing the ætiology of eczema the author makes no mention of contagion, and yet we think we have seen an attack of eczema not infrequently arise from contagion, or, perhaps it would be more accurate to say, inoculation.

Under the heading "Dermatitis" Dr. Nevins Hyde includes an instructive section on "Feigned Diseases of the Skin."

Dr. Radcliffe Crocker contributes articles on squamous affections of the skin, and on its phlegmonous and ulcerative affections. Dr. L. Brocq writes on its papular affections; Dr. Kaposi on xeroderma pigmentosum; Dr. Douglass Montgomery on diseases of the hair and nails; Dr. Arthur Van Harlingen on diseases of the sebaceous and sweat glands; and Dr. Whitehouse on bullous, erythematous and pustular affections.

M. Leloir, of Lille, contributes a learned article on Dermatoneuroses, in which he of necessity travels again over some of the ground covered by his co-authors. His treatise is very elaborate. He divides the neuroses of the skin into the purely sensory, the purely motor, the vascular, and the trophic. To these he adds a fifth class, the glandular dermatoneuroses, which may be regarded as a sub-group of the class of trophic dermatoneuroses, or cutaneous trophoneuroses. These glandular dermatoneuroses are cutaneous diseases of nervous origin, characterised by a disturbance of the glandular secretion, secondary to a functional disorder of the nervous system. This group of maladies affects the sudoriparous glands (hyperidrosis, anidrosis?), sebaceous glands, hair follicles, and nails.

We are sorry to learn from an editorial note, at page 881, that, in consequence of severe injuries received in a railway accident, while he was engaged in the preparation of this article, Professor Leloir was unable to finish the chapter on the Trophoneurosis. The portion of the section on the pathogeneses of these affections which follows "Acrodynia" (page 835) was compiled, under his supervision, however, from his previous writings by two of his assistants.

Enough has been said to prove that the present volume fully maintains the character and *prestige* of "Twentieth Century Practice."

A System of Medicine by Many Writers. Edited by THOMAS CLIFFORD ALLBUTT, M.A., M.D., LL.D., F.R.C.P., F.R.S., F.L.S., F.S.A.; Regius Professor of Physic in the University of Cambridge, &c., &c. Volume I. London: Macmillan & Co., Ltd. New York: Macmillan & Co. 1896. 8vo. Pp. 977.

"To Sir J. Russell Reynolds, Bart., M.D., F.R.S., President of the Royal College of Physicians, this work is dedicated in memory of thirty years of friendship by the editor"—thus gracefully, and pathetically when viewed in the light of very recent events, the resignation of the Presidency of the Royal College of Physicians by Sir Russell Reynolds, and his subsequent death—does the distinguished Regius Professor of Physic in the University of Cambridge launch the first volume of a great work upon the limitless ocean of medical and scientific study.

The dedication is appropriate, because the present work is destined to prove the lineal successor of "Reynolds' System of Medicine," which taught so many generations of physicians through so many years the principles and practice of their great Art—the *Ars medendi.*

The present volume consists of a learned introduction by the editor, of Division I.—Prolegomena, and Division II.—including an instalment of the fevers. Of this last, Part I. is an article on insolation or sunstroke by Sir Joseph Fayrer, and Part II. is devoted to the "Infections"—a subject treated of only in part in this first instalment of the work. A list of authorities and a well-arranged index conclude the volume, which runs to nearly 1,000 pages of clear and legible type. Paper and binding leave nothing to be desired in point of style and finish. We should not omit to mention the high order of excellence which characterises the greater number of the illustrations, several of which are delicately executed in colours.

Some forty-three different writers have taken part in the authorship of the volume before us. Their handywork has been blended together into a harmonious whole with great skill and success by the editor, whose no light task has been performed with sound judgment based on a ripe experience of men and letters.

The list of authors includes many of the best known names in Great Britain, and the United States of America are represented by John S. Billings, Librarian to the Surgeon-General's Library and Professor of Hygiene in the University of Pennsylvania; by Dr. John K. Mitchell, Lecturer on General Symptomatology in the University of Pennsylvania; and by Dr. Frank Fairchild Wesbrook, Professor of Bacteriology in the University of Minneapolis. Canada is well represented by Dr. George John Adami, Professor of Pathology in M'Gill University, Montreal. Brigade Surgeon Lieutenant-Colonel Kenneth Macleod, late Professor of Surgery in the Medical College of Calcutta, takes part in writing the article on Cholera asiatica, in which Mr. Ernest Hart, Dr. S. C. Smith, Dr. Kanthack, and Mr. J. W. W. Stephens, the Treasurer's Student in Pathology at St. Bartholomew's Hospital, co-operate. There is not an Irishman in the entire list, but we understand that this will not be so in coming volumes—it is an accident, not a mission.

Miss Amy Hughes, superintendent of nurses in Bolton Union Workhouse, late superintendent of the Central Training Home, Queen Victoria's Jubilee Institute for Nurses for the Sick Poor, contributes a long article on "Nursing." It runs to 34 pages, but is not a bit too long. We cannot forbear to quote two passages from the opening sentences of this article:—

> "Order, method, punctuality, obedience are part of the groundwork of a training school; but to these must be added thoroughness, promptness, accuracy in observing, and correctness in reporting observations, and a loyal attitude towards doctors and patients. The whole art of trained nursing depends upon the maintenance of this attitude. Nurses are bound, by their very position, to render loyal obedience to medical men. It is not their duty to suggest or initiate treatment of any kind, except by express permission or in some sudden emergency. They have no responsibility whatever save that of faithfully obeying orders, and the higher the discipline the more readily this is recognised. With regard to patients, the gravest fault, short of negligence, is love of gossip, personal or professional. To talk to patients about their ailments and treatment, to describe other cases to them, to indulge them in medical histories, and to discuss the comparative merits of medical men, work infinite harm, especially to those of nervous temperament who are chiefly disposed to seek such confidences. It is true a nurse is often at a loss to interest her patients, but to gratify unwholesome curiosity, to criticise methods of treatment, or to reveal private affairs learned in the course of her profession, is most reprehensible." (Page 423.)

When Miss Hughes expresses such sentiments, the editor's somewhat apologetic footnote seems hardly to be called for. "I have asked Miss Hughes," he says, "to write this article for me in order that medical men may know what to expect of their nurses—not that I for a moment suppose any one of my readers to be unfamiliar with the smallest of these bedside services."

Immediately before this article on Nursing, there is an admirable disquisition on the diet and therapeutics of children by Dr. Eustace Smith. To one statement in it we beg leave to take exception. He says (page 422): "Antipyrin, like quinine, children take well." That this statement refers to the effect of the drug, not to the fact that children do not *object* to take it, is evident from this sentence which occurs earlier in the article: "Children take quinine with great benefit if the dose be not too small." Now, our experience of antipyrin, or phenazone, is that it is a dangerous remedy in childhood—as dangerous, probably, as opium—and that it depresses unduly and produces cyanosis even in small doses. No doubt, so good an authority as Dr. William Whitla holds that phenazone may be given hourly for 3 doses in the febrile diseases of childhood (1½ grains per year of the child's life); but in the first place reduction of temperature is in itself of dubious advantage if not sometimes positively hurtful, and in the next place it is not reassuring to be told by Dr. Whitla that "giddiness and collapse (from phenazone) can be successfully treated by atropine hypodermically."

In most cases one author undertakes each special subject. In some instances, however, several writers co-operate. For example, the article on Diphtheria is written jointly by four authorities. Dr. Samuel Gee defines the malady and supplies its clinical description; Dr. R. Thorne Thorne writes on its ætiology and prophylaxis; Dr. A. A. Kanthack on its bacteriology and pathology; Dr. W. P. Herringham on the serum-treatment of the disease.

Similarly, the article on Cholera asiatica is the joint work of as many as five authorities, whose names we have already given. Without any wish to disparage their colleagues, we think that the most interesting part of this article is that for which Messrs. Kanthack and Stephens are responsible—namely, the Bacteriology of the disease. The subject is still a *quæstio vexata*, "and" (say the authors), "however impartial our endeavour, we cannot at present find a satisfactory solution of the matter." Their conclusions may be summed up somewhat as follows: Vibrios, possessed of great variability, both morphologically and biologically, yet presumably descendants of one species, are constantly associated with the disease and are frequently found in pure culture to the exclusion of other organisms. The unity or specificity of these vibrios is not proved by various tests; but the circumstantial evidence is fairly strong—indeed, so far as our present knowledge goes, almost convincing. In a word, the various lines of argument all converge towards one point—namely, the unity and specificity of the choleraic vibrios.

The ever-fresh and always attractive subject of Enteric Fever receives ample justice at the hands of Dr. Julius Dreschfeld, who brings to his task a ripe experience as physician to the Manchester Royal Infirmary and professor of medicine in the Owens College, Victoria University.

In strongly recommending this work to the members of the profession, we take the liberty of congratulating the Regius Professor of Physic in the University of Cambridge on the large measure of success which has so far attended upon his editorial labours. We trust he may be equally fortunate in regard to future instalments of this splendid work—a work which faithfully reflects the position occupied by the Science and Practice of Medicine in the closing years of the last decade of the Nineteenth Century.

Burdett's Hospitals and Charities, 1896, *being the Year-Book of Philanthropy*. By HENRY C. BURDETT. London: The Scientific Press (Limited). Crown 8vo. Pp. 955.

WE agree with Mr. Burdett that this work is correctly described by its sub-title: "The Year-Book of Philanthropy." Last year, it was our duty—and we did it—to criticise several errors which had crept into the portion of the book relating to Irish hospitals. It is a real pleasure to state that nearly all the slips we noted have been corrected in the present issue. This experience leads us to accept at once the author's statement that "every year we present our readers with an entirely new book—a new book not only from the circumstance that the first 250 pages or so contain original matter, but because every figure in it is, as far as possible, new, and every fact has been carefully tested in order to ensure accuracy throughout its 1,000 pages."

Nor is the information garnered in the pages of this work confined to the charitable institutions of the United

Kingdom. It is imperial—and more than imperial—in its scope, for it carries us through the hospitals and asylums, not only of the Colonies and the Indian Empire, but also of the United States.

Again, we heartily congratulate Mr. Burdett on the accomplishment of the useful yet laborious task he has set before him in the writing of his "Year-Book of Philanthropy."

Elementary Anatomy and Surgery for Nurses: A Series of Lectures delivered to the Nursing Staff of the West London Hospital. By W. M'ADAM ECCLES, M.S. Lond.; F.R.C.S. Eng. London: The Scientific Press, Limited. 1896. Crown 8vo. Cloth. Pp. 150.

THE object of this book, the author states in his preface, is, first, "to set forth the more important points in anatomy which it is requisite for a nurse to know." It also deals with certain "purely surgical facts with which all nurses should be familiar."

We would not have thought any book necessary in order to teach nurses the small amount of anatomy which could possibly be of practical use to them, and, having read this book, we see no reason to alter our opinion.

How can the author imagine that it is of use to a nurse to know the weight of the brain or spinal cord, the articulations of the cranial bones, or that the pancreas has a head, body, and tail, and lies behind the stomach! It is scarcely too much to say that a nurse might be ignorant of almost all the anatomy set forth in this book without disadvantage to her work.

We have equally little sympathy with the attempt to teach nurses "purely surgical facts."

In his chapter on Inflammation the author speaks of the "necessity for a thorough fundamental knowledge of the methods whereby Nature performs her work of healing and the enemies with which she has to combat." Does he suppose, then, that a nurse should become both pathologist and bacteriologist? Again, does he really think it requisite for a nurse to know the six degrees of burns or the varieties of nævi? This all seems to us sufficiently absurd, but the climax of folly is reached in the last ten pages, where we find an account of "reef knots" and "granny knots," and of surgical instruments which "it is well that a nurse should be acquainted with"! Amongst these we find a hernia director, a common scalpel, and a Hagedorn's needle-holder!

Indeed, we cannot congratulate the writer from whatever point of view we regard his work. The book lacks clearness, is devoid of all evidence of originality or careful thought, and is not even free from actual errors. For instance, he describes the posterior chamber of the eye as lying behind the lens; he speaks in two places of a system*atic* circulation, and describes cartilage in the eyelids. That "the sense of touch resides for the most part in the skin" is a somewhat remarkable statement.

The volume has many illustrations, but we do not think they add much to its usefulness. In conclusion, we do not recommend this book to nurses, unless, indeed, they wish to discover how utterly futile must be any attempt on their part to wander from their own proper province.

ÆTIOLOGY OF GRAVES' DISEASE.

THE *Medical Record* of 18th April prints a paper read by Dr. Francis Kinnicut before the Practitioners' Society of New York, in which he advocates reversion to the original hypothesis of the ætiology of Graves' Disease—that it is primarily a disease of the thyroid gland. This view is based, he says, on "experimental investigations on the functions of the thyroid gland and the knowledge of the vital importance to the economy of its physiological secretion acquired very lately through observations in myxœdema and the closely allied conditions of cachexia strumipriva, cretinism, and fœtal rickets." "A preponderance of both pathological and clinical evidence is in favour of the view that the symptom-complex of Graves' disease finds its most satisfactory explanation in a general toxæmia of the nervous system, the result of quantitative or qualitative changes, or both, in the secretion of the thyroid gland;" "the existence of a neurotic predisposition" being probably necessary. This paper, with its elaborate table of 99 cases treated by operation, is well worth study.

PART III.

SPECIAL REPORTS.

REPORT ON GYNÆCOLOGY.

By E. **Hastings Tweedy**, Fellow and Examiner, Royal College of Physicians of Ireland; Gynæcologist to Dr. Steevens' Hospital; late Assistant Master, Rotunda Lying-in Hospital.

I. The recent Improvements in Gynæcological and Obstetrical Journals.
II. A new Method of Extirpation of a Myomatous Uterus by Continuous Incision from left to right.
III. A new Method for the Treatment of Cystitis in the Female.
IV. Vaginal Bacteria in relation to Antiseptic Irrigation.
V. Incontinence of Urine.
VI. Some general considerations on Intra-uterine Diagnosis and Treatment.

I. Though but a short time has elapsed since a Review of Gynæcology appeared in this journal, yet, so rapidly has this branch of surgery advanced, much material of interest has accumulated since its publication.

No greater indication of vigour is supplied than the enlarging and perfecting of text-books and journals devoted to any particular branch of science, and nothing is more remarkable than the advances made recently in midwifery and gynæcological literature.

The journals devoted to these branches in the English language are now both numerous and of a very superior order.

In the first place, we wish to call our readers' attention to the enormous improvement that has taken place in the *British Gynæcological Journal* since the editorship devolved on Dr. Leith Napier. It may now fairly be said to teem with useful information, and to afford its readers a very complete summary of work done, not only in the British

Isles, but also in the great Continental centres of learning. This useful innovation will, doubtless, prove of immense value to those not conversant with many foreign languages.

The *American Gynæcological and Obstetrical Journal* announces in its March number a new departure which has the merit of being not only novel but likewise of great practical interest: this is to publish each month an original article written specially for the journal by foreign gynæcologists of note; and, so far as possible, each article will discuss the subject with which the special writer's name is identified.

We cannot pass on without a word of praise for the general efficiency of this publication, which seems to improve more and more each month; and the moderate price for which it can be obtained brings it within the reach of all.

The *American Journal of Obstetrics and Diseases of Women*, too, needless to say, still sustains its reputation as a publication second to none of its kind in the English language.

It likewise has undergone great changes for the better since the commencement of the year, by the addition of some fifty pages, devoted entirely to a review of current literature abroad.

The *Annals of Gynæcology and Pædiatry*, another special journal published in Boston, also merits praise in passing. It can be obtained for the small sum of 15s. a year, and always repays perusal.

II. It is with much interest we have read (*Bulletin of the Johns Hopkins Hospital*) Howard Kelly's description of his new method for extirpating a myomatous uterus.

He claims that by it—

1. A saving is secured of from 60 to 80 per cent. of the time occupied in the enucleating stage of the operation.
2. Intra-ligamentous myomata and those beneath the pelvic peritoneum can with ease be enucleated.
3. Inflammatory masses posterior to the broad ligament are easily enucleated.
4. A displaced ureter is under control, and can be kept out of the way during the operation.

The operation consists in the following steps:—

1. Opening the abdomen.
2. Ligation of the ovarian vessels near the pelvic brim,

either on the right or on the left side, clamping them towards the uterus and cutting between.

3. Ligaturing the round ligament of the same side near the uterus, cutting it free, and connecting the two incisions in order to open up the top of the broad ligament.

4. Incision through the vesico-uterine peritoneum, from the severed round ligament across to its fellow, freeing the bladder, which is now pushed down with a sponge, so as to expose the supra-vaginal cervix.

5. Pulling the body of the uterus to the opposite side to expose the uterine artery low down on the side opened up. The vaginal portion of the cervix is located with thumb and forefinger, and the uterine artery seen or felt is tied just where it leaves the uterus. It is not always necessary to tie the veins.

6. The cervix is now cut completely across just above the vaginal vault, severing the body of the uterus from the cervical stump, which is left below to close the vault.

7. As the last fibres of the cervix are severed or pulled apart, while the body of the uterus is being drawn up and rolled out in the opposite direction, the other uterine artery comes into view and is caught with artery forceps about an inch above the cervical stump.

8. Rolling the uterine body still further out, the right round ligament is clamped and cut off; and lastly, the ovarian vessels are clamped at the pelvic brim, and the removal of the whole mass, consisting of uterus, tubes and ovaries, is completed.

9. Ligatures are now applied in place of the forceps holding the uterine artery, round ligaments, and ovarian vessels; if the surgeon prefers, these may be tied, as they are exposed, without using forceps.

10. After the enucleation the operation is now finished in the usual way by closing the cervical tissue over the canal, and then by drawing the peritoneum of the anterior part of the pelvis (vesico-peritoneum and anterior layers of broad ligament) over the entire wound area, and attaching it to the posterior peritoneum by a continuous catgut suture.

Dr. J. G. Clarke, in the same publication, announces a novel method for the cure of cystitis—namely, the distension of the bladder by a rubber balloon, which is passed in thickly covered with a 10 per cent. solution of ichthyol in gelatine. The bag is then inflated so as to cause gradual distension of the organ and to bring whatever medicinal substance used into direct contact with the smoothed out and stretched epithelium surface. A known quantity of air is passed into the bag and the appliance is left in place for from 15 to 20 minutes at a time, and can be employed every third day until the cure is complete. Dr. Clarke is careful that the method has its application alone in chronic forms of cystitis.

A series of very important experiments have been carried out in Zweifel's clinic in reference to the power possessed by the vagina of destroying pathogenic germs.

These experiments have cleared up much that was still left in doubt by the observations of Döderlein, Kaltenbach, and Ahlfield.

In every case observed the vagina contained micro-organisms only of a harmless character before experimentation, and the subsequent results were in no way affected by the fact that, in some instances, cocci, and, in others, bacilli, predominated.

The experiments go to show that all outside micro-organisms (streptococci, staphylococci, &c.) are destroyed at furthest within two days of their introduction to a healthy vagina.

Experiments were also conducted to ascertain whether antiseptic douching had the effect of facilitating the removal of outside germs, and the results strongly point to the harmfulness of these methods, especially when practised immediately before or after labour.

In those cases not interfered with streptococci placed in the canal died within two hours; but when scrubbing with lysol and other antiseptics was carried out these germs could be demonstrated, and were still active at the end of twenty-four hours.

These conclusions of Krönig closely coincide with those of Menge, who carried out similar observations on pregnant women.

The latter finds that even the gonococcus can live but a short time as a saprophyte in the vagina, and must either succeed in causing an inflammation of the underlying tissues or die.

The view propounded by Döderlein that the antiseptic properties of the vagina were, owing to its acid secretion, the result of germ action, is only partially true.

In many cases this antiseptic property was pronounced in vaginal secretions having an alkaline reaction, and was also present in the vaginæ of newly-born children.

Other important conclusions are, that the cervix does not harbour any variety of pus-forming germ, if we except the gonococcus, and that, therefore, spontaneous infection during childbirth is impossible.

Thure Brandt's Method for Curing Incontinence of Urine in Women.—Dr. Narick, who brought six cases before the Obstetrical Society of Paris (Nov., 1891; Nov., 1893; May, 1894), gives two more successful cases. In one case, aged forty, the trouble persisted after the reposition of an adherent retroverted uterus, and keeping it in position by a Schultze's pessary. The nights especially were much disturbed. Three applications cured the patient, and after six months she was still free of her troubles. The other case was an old woman, aged seventy, suffering from valvular disease, whom he found in a pestilential atmosphere, owing to her incontinence. Three massages cured her for a fortnight, when a violent cough from influenza caused a relapse. Three more sittings cured her again, and she was free when Dr. Narick saw her a month later.

The method is simple. The greased index finger is pushed up to the level of the vesical sphincter, or a little higher, and moved from right to left five or six times, at the same time pressing against the posterior surface of the pubis. The massage is slightly painful.

It seems to deserve a trial.—(*Annals of Gynæcology and Pædiatry.*)

The misfortunes which occur in connection with intra-uterine treatment, especially in out-patient practice, are to be attributed to deficiencies in technique, and still oftener in asepsis, rather than to the treatment itself. The agent which infects the uterus comes more often from the perinæum, the external genitals, and especially from the hairy pudenda, than from the vagina, and careful purification of these external parts is therefore indispensable in all such undertakings.

The use of the sound and curette for diagnostic purposes should be strictly limited; the information they give about the condition of the inner surface of the uterus, especially in tumours, is merely deceptive. Dilatation of the cervix by sterilised laminaria, iodoform gauze, or flexible copper sounds, followed by digital examination, should take their place.

Playfair's probe or some similar form of sound is not to be dispensed with as a means of applying treatment to the uterine cavity. The rod should be thin, and the cotton wool thinly and evenly wound about it, so that it may not come off and be left behind, or offer any unevenness to the inner os. The anterior lip is to be fixed with vulsella, by judicious traction on which considerable flexion can be pretty well remedied, and the operation is always made less painful and more certain. Passing a thicker sound, and allowing it to remain *in situ* for some minutes, is a valuable means of ensuring the medicated cotton wool afterwards reaching the cavum without being squeezed dry at the inner os, and in any actual stenosis of the inner os is an indispensable preliminary.

Nor would Gottschalk abolish the use of Braun's syringe, but warns us that in its use patience is a *sine quâ non.* The syringe should be emptied drop by drop without any noticeable pressure; it is impossible to be too deliberate or gentle in closing it, and anyone who neglects this rule must be prepared for uterine colic (or worse).

Uterine catarrh should in the first instance be treated as catarrh of the cervix only, unless from the nature of the discharge, hæmorrhage or tenderness, it is evident that the inflammation has affected the mucosa of the corpus.

No one should undertake intra-uterine treatment who is unpractised in bimanual examination, and may therefore overlook some local inflammatory condition in the neighbourhood of the womb which would contra-indicate such treatment. It is no wonder that failure and mischances result when cases are undertaken simply on the subjective statement of the patient without any exact diagnosis — without even an accurate palpation of the adnexa. In the acute stages of gonorrhœal endometritis no intra-uterine treatment should be attempted.—(*British Gynæcological Journal*, Nov., 1895.)

(*To be continued.*)

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—JAMES LITTLE, M.D., F.R.C.P.I.

General Secretary—WILLIAM THOMSON, F.R.C.S.I.

SECTION OF OBSTETRICS.

President—LOMBE ATTHILL, M.D.

Sectional Secretary—DR. F. W. KIDD.

Friday, December 20, 1895.

The PRESIDENT in the Chair.

Specimens exhibited.

DR. ALFRED SMITH showed the following specimens:—

(1.) An abscess of the ovary with pyosalpinx, which he removed from a patient who suffered from a severe attack of puerperal fever, twelve months previously; ovarian abscess burst during removal; contents particularly fœtid. Peritoneal cavity was protected by thin gauze sponges; pelvis douched out with gallons of saline solution; drainage; rapid recovery.

(2.) A large multilocular ovarian tumour, with extremely extensive adhesions. The entire cyst-wall was intimately adherent all round, and in the lower zone coils of small intestines were embedded in its wall and could only be separated by dissection at the expense of the cyst taking care to remove the cellular layer. There was extensive hæmorrhage after separation of the adhesions from the abdominal wall, easily controlled by the purse-string suture; douched with saline solution; drainage; recovery.

DR. M'WEENEY said, in the examination of the case on which he was asked to report, the most important points were the large size of the cyst, and the existence in it of a piece of the lower jaw with both condyloid and coronoid processes and a number of teeth, both incisors and molars. The teeth were in the wall of the cyst, and of the pieces of bone he found, one was as large as his little finger. The specimen, he thought, was strangely analogous to that presented by Dr. Tweedy.

Dr. Tweedy remarked that his case recovered.

Dr. M'Weeney said his case recovered too.

Dr. Macan said that, as regards Dr. Smith's second case, he desired to know whether the adhesions formed were consequent on pregnancy and delivery, or whether there was a history of some former inflammatory trouble. He did not know that even the size of the tumour was quite sufficient to explain the condition of things, unless there was twisting of the pedicle or some other affection. He would like to know why there were extensive adhesions in one case while they were absent in others.

Dr. Smith could not account for the adhesions. There might be, he thought, some connection between confinement and the presence of the adhesions; but the adhesions were very well organised considering that only three months had elapsed from the time of confinement. Why the adhesions were so extensive he could not say, and he would be glad to have Dr. Macan's explanation.

(3.) A pair of tubes and ovaries removed from a patient, aged twenty-eight, who had a multinodular fibro-myomatous uterus, and suffered from severe hæmorrhage. The outlet of the pelvis was very contracted and not favourable for morcellement.

Dr. Macan exhibited (1) a case of hysterectomy done for a large fibroid; (2) a vaginal polypus; and (3) uterine fibroid polypus.

Dr. Hastings Tweedy exhibited a dermoid tumour of right ovary, which he removed from a patient, aged forty-five years.

The woman had noticed the abdomen enlarging for only three months previous to operation, during which time she suffered intense pain. The cyst extended above the umbilicus for two inches. The patient made an afebrile recovery.

The tumour is an interesting one, not alone on account of its large size, but also from the fact that it contains much hair and a portion of the lower jaw, with many teeth embedded in it.

He also showed a cyst of the left ovary, which he had removed from a woman, aged twenty-five, who had had two children, the last seven weeks previous to operation. According to the patient's statement, the tumour had increased enormously in size since the birth of her last child, and was accompanied by great pain.

Dense adhesions made the operation difficult, necessitating in one spot the leaving behind a piece of the tumour wall attached to the intestine.

The patient made a rapid and uneventful recovery.

He also showed a very large sub-mucous myoma, which had almost become a polypus, and was in a sloughing condition on its outer surface.

The patient had suffered for seven months from great pain and a fœtid discharge. The tumour completely occluded the vagina, and weighed over 2 lbs. In consequence of its great bulk, it was quite impossible to reach its base.

He removed the tumour piecemeal by means of Dr. W. Smyly's spoon forceps and stout scissors, without the exhibition of force, or any injury to the soft parts.

The patient made a rapid recovery.

An Interesting Solid Ovarian Tumour.

Dr. Alfred Smith read a paper on the above subject. [It will be found in Vol. CI., page 34.]

Ovariotomy.

The Hon. Sec., for **Dr. Kinkead**, read a paper on this subject. [It will be found in Vol. CI., page 97.]

Multilocular Ovarian Tumour.

Mr. Henry Gray Croly exhibited a large multilocular ovarian tumour which he removed from a girl, aged sixteen years, in the City of Dublin Hospital, on July 2nd, 1895. The tumour commenced to grow about nine months before her admission to hospital, and was first observed on the right side. The abdomen was very large, and numerous veins ramified over the tumour. The fluctuation was very distinct high in the abdomen; less so towards the pelvis, where solid masses were felt. Menstruation was irregular of late, and the "ovarian face" was very marked. The girl lost flesh considerably. The measurements were 38 inches in circumference at level of umbilicus, 30½ inches at ensiform cartilage, 8½ inches from umbilicus to right anterior superior spine, 8¾ inches from ensiform cartilage to left anterior superior spine. The usual incision was made, and Mr. Croly found it necessary to prolong the incision upwards and to the left of the umbilicus. A very large and distended vein in the broad ligament lay across the upper part of the cyst. The vein was secured by double sterilised silk ligature, and divided between them. Two gallons of gelatinous, greenish fluid were drawn off from the large cyst which Mr. Croly then opened, when several more solid tumours were found, and are well seen in the specimen now on the table.

Mr. Croly found some difficulty in removing the tumour from the pelvis. This was caused by the locking of the smaller cysts in the pelvis. These cysts were opened with a scalpel and by finger, and a boiled starch substance escaped. The pedicle was tied in the usual way, and no drainage was adopted. There was no hæmorrhage. The girl was fed "per rectum" for several days, and made a rapid recovery and got fat. She returned to the country, and is in perfect health.

Misplaced and Rotated Spleen which simulated an Ovarian Tumour.

MR. HENRY GRAY CROLY exhibited a spleen, which he removed from a married woman (aged forty years) in the City of Dublin Hospital, on the 7th inst. The woman had several children; but never noticed any abnormal tumour until last summer. The swelling commenced at the left side, and gradually extended towards the right; was not painful. She lost flesh and her features changed. She thought at first she was pregnant. The doctor who attended her previously never observed any abdominal tumour until he was consulted after her last confinement. She aborted shortly after her admission to hospital. On palpation the tumour was firm, and gave the sensation of fluctuation, and, though apparently larger on the left side, crossed well over to the right, and could not be moved upwards or downwards. There was no history of ague, and the woman was never out of her native place. The usual vaginal and uterine examinations were made by the skilled gynæcologist to the hospital and the distinguished Master of the Rotunda Hospital.

When the patient was first admitted to hospital no decided opinion was expressed beyond that it was an "abdominal tumour," and no clinique was given, but the case was carefully palpated, and attention paid to improving the lowered condition of the patient's health. She was well fed, and allowed into fresh air, and walked as much as she felt inclined or equal to. After the final examination of the tumour by the gynæcologists, the unanimous opinion expressed was the belief of its being ovarian. The question of the difficulty of diagnosis of abdominal tumours of all sorts is well known, and this proved no exception, and, though doubts were at first expressed on the case, all at the final examination *believed* the case to be ovarian.

Mr. Croly performed laparotomy, and came down on a large, solid, fleshy mass, with purpuric mottling on the surface. The small intestines were adherent to and fixed by the tumour, but were freed by the fingers. There was no hæmorrhage; as the mass was firmly fixed and could not be raised, the pedicle was sought for in the usual position but not found; the wound was then extended above and to left of the umbilicus, where a funis-like pedicle was discovered, feeling like a bar of iron. This was surrounded by omentum. The hand was now passed along the pedicle and the spleen space was empty. The pedicle was secured by a stout, double-silk ligature (sterilised). On section, the mouths of vessels were seen as in an "Esmarched limb." There was no blood lost; no vessel required ligation, torsion or clip. The peritoneal cavity and pouches were sponged. The abdomen was not closed until all risk of bleeding points was made certain. The patient bore the anæsthetic and operation, which was rapidly done, well, and went on most favourably for some days, when vomiting set in (of a greenish fluid), and symptoms of collapse, and she succumbed. No *post-mortem* examination was obtained.

The following discussion took place on the three papers:—

Dr. Tweedy—Dr. Smith, in his paper, said nothing about having examined the second ovary. Sarcomatous tumours occurred, as a rule, in both ovaries: here sarcoma occurred in only one. He was not quite clear that Dr. Smith's case was one of ordinary sarcoma. Referring to Mr. Croly's case, he said that unless the pedicle could be felt no certain—at least only an approximate—diagnosis could be made.

The **President** said, that Dr. Smith's paper put him in mind of a case that came under his care fifteen years ago. She had what he diagnosticated to be an ovarian tumour, with ascites. After opening the abdomen it became so wedged in the brim of the pelvis that he could not well get it out, and it was so soft that it broke down. One of his assistants had to force the tumour up from the vagina before he could remove it. It proved to be a sarcoma. She is now married, and her only cause of regret is that she has no children. He asked Mr. Knowsley Thornton his experience, and he was of opinion that, without exception, in every case in which the disease had occurred, the patient died within twelve months. His case was important, inasmuch as it proved that sarcoma of the ovary was not necessarily fatal, and that only one ovary may be affected. In the absence of malignant disease there must be some constitutional cause of the ascites. When he (the President) was a student, some twenty years ago, Dr. Stokes laid it down as a law that if ascites was present the disease was most likely malignant, and he (the President) thought that law held good at the present day.

Dr. Glenn said that in differentiating between an ovarian and splenic tumours, the points to be relied on were—(1.) the presence of a notch; (2.) the consistency of the tumour; (3.) and its position.

Dr. Macan could not see why Dr. Smith did not make his diagnosis himself instead of handing the case over to his medical colleague. He thought another diagnosis might have been made, and that there was another cause for the ascites that was tubercle. He had opened an abdomen himself and found not a trace of fluid, where there was no doubt that the disease was carcinomatous. He congratulated Dr. Smith on his paper. He could not gather the evidence on which it was stated that the spleen was likely to suppurate in Mr. Croly's case. His diagnosis of the case was that the woman had been going about with a twisted spleen for many months, and that enlargement was due to the twist.

Dr. Lane, speaking of the tumour, said Mr. Croly referred to pregnancy. He asked the patient was she pregnant and she said no. He was under the impression that it was a fibro-cystic tumour. On examination, per vaginam, he found the cervix softer and more congested than is the case in pregnancy. The uterus was also more increased in size than it would be in pregnancy. To his mind it had a very elastic and fluctuating feel. When the abdomen was opened the tumour had gone up to the diaphragm, and it seemed that the pedicle was going down into the pelvis, and that it was not going upwards towards the left side.

Mr. M'Ardle congratulated Dr. Smith. He mentioned three cases of sudden hæmorrhage. One was from a friable pedicle. In all three cases referred to the rapidity with which the pulse returned was well-marked after injection of saline solution. At the time they were securing the bleeding points the patient was blanched, and large beads of perspiration stood in the forehead. The shock that was often spoken of in connection with these operations meant often that inflammation had spread along the pelvic veins. He was acquainted with two cases where death was attributed to shock; but the fact was, in each case, a cast of the inferior vena cava was found in the right side of the heart. He believed the use of the clamp forceps set up phlebitis, and was a cause of the high mortality in those operations. He pointed out the advantage of digital pressure practised in a manner shown. In the diagnosis of abdominal tumours he laid stress on elevating the patient in the Trendelenberg position. Unless the tumour was adherent to the rectum it would move upwards towards the diaphragm. He thought thrombosis of the splenic vein accounted for the hard cord.

Dr. Winifred Dickson mentioned a case in which there was ascites, yet the case was an ordinary cyst. Dr. Dickson mentioned the fact, as a good deal had been said as regards ascites accompanying malignancy.

Dr. Horne said, when they were examining the case, they were struck by the amount of ascites present. With regard to the bleeding occurring 36 hours after the operation, they should remember that Dr. Smith pointed out that the pedicle was very broad—it measured 5 inches in breadth. He connected the bleeding with the vomiting. He also made some remarks on the histological character of the tumour.

Dr. Smith, in reply to the remarks made on his paper, said he could give no explanation of the ascites. The fact that Dr. Atthill's case is still living gave him hope. He did not clearly understand what Dr. Atthill meant by saying the cause of the ascites in his (Dr. Smith's) case was constitutional. He commented on Dr. Macan's view as to the tubercular nature of the disease.

Mr. Croly replied to the observations of Dr. Macan and other members. He could not agree with Mr. M'Ardle as to the value of turning the patient upside down, seeing that the tumour was adherent in all directions.

The Section then adjourned.

Friday, January 31, 1896.

The **President** in the Chair.

Ovarian Tumour.

Dr. Alfred Smith showed an unilocular ovarian tumour, the size of an adult head, which he removed from a child aged thirteen years. Recovery rapid.

Dr. Lane wished to know if the patient had menstruated.

Dr. Smith replied that she had not.

Exhibit.

Sir Thornley Stoker exhibited the uterus with a number of attached tumours which he had removed from a patient thirty-five years of age. The growths were fibro-myomata, all apparently of interstitial origin, although five or six of them in the process of development had become sub-peritoneal and pedunculated. The substance of the uterine wall was the seat of a number of tumours, varying in size from a pea to an orange, and the pedunculated growths were from the size of a goose egg to one so large that it weighed 15 lbs. The entire weight of the parts removed, when drained of blood, was 19 lbs. 10 oz., and must, when full of blood, have been about 24 lbs. The circumference of the large pedunculated fibro-myoma was 34 in., one direction, and 31¼ the other. The growth had existed for six years, and had become so bulky as to render life intolerable. The operation performed was a supravaginal, intra-peritoneal, hysterectomy. The sutures securing the intra-ligamentous structures were, like the cervix, rendered subperitoneal by careful suturing of the peritoneum from the brim of the pelvis on one side to the other. The operation was an exceeding protracted one, owing to the difficulty of securing the stump of the right broad ligament, which was invaded by a cyst in such a way as to necessitate its division close to the pelvic wall. The operation lasted 2½ hours, and the most remarkable fact elicited by it was that in spite of the age and enormous size of the tumours there were absolutely no adhesions. The condition of the patient from the time of operation to the date of meeting, 10 days, was perfectly satisfactory. She had not even suffered inconvenience, and was practically out of danger.

The President said that the rapid growth in this case would be likely to lead him to think that the tumour was of a sarcomatous nature. While connected with the Rotunda, a case presenting some points in common with Sir T. Stoker's case had come under his notice. Mr. Knowsley Thornton at the time was over in Dublin, and, having seen the case, expressed the opinion that he would not care to touch it. He congratulated Sir T. Stoker on an operation calculated to uphold the reputation of Dublin as a school of surgery.

Case of so-called Elephantiasis.

Dr. F. W. Kidd read notes on a case of so-called elephantiasis.

The patient, aged thirty-three, had been sent to him from the country—had never been abroad, nor is there any suspicion of a syphilitic origin—states that about 13 years ago she got a fall, to which she attributed the growth of the tumour. The tumour commenced in and involved all the tissues of the right labium, and hung down more than half way to her knees. It did not grow quickly at first, but increased more rapidly for the last eighteen months. Patient had never sought for any advice, and only now came because the growth had assumed such proportions that it was impossible for her to sit down with any comfort. There were no disorders of menstruation or micturition. The operation for the removal of this growth was done on the 7th December, 1895. An elliptical incision having been made, the diseased tissues were dissected out from the anterior surface of the symphysis, where they were very adherent; bleeding points were ligatured or twisted, the site of the clitoris giving most trouble. A drainage tube having been inserted the length of the wound, it was closed with numerous silk-worm gut sutures. The wound did not heal by first intention—a result probably due to the low vitality of the part and its œdematous condition. The tissues became very œdematous, and at one time had an erysipelatous-looking blush. Some suppuration took place, and it was only by the most absolute care that septic trouble was avoided. There must have been many lymphatics in a condition likely to absorb septic matter. The temperature never went above 101·2°. She made a good recovery, though somewhat slow.

When removed, and in the recent condition, the tumour weighed 5½ lbs. The following was the report made by Dr. McWeeney:—"The tumour is whitish in colour, covered close to the pedicle with rather dark-coloured skin, from which grew a few long hairs, whilst elsewhere it is covered with epithelium which has the character of mucous membrane. It is lobulated and very irregular in shape, with numerous papilla-like excrescences, so as to resemble a gigantic wart; the consistency is rather soft. Between the larger lobes are curious sinuous cavities, some of which are actual passages or canals running right through the mass from near the pedicle at one end to the free convexity on the other. Part of the skin covering the base of the tumour is covered with innumerable small pedunculated protuberances like fungiform papillæ. Microscopically, the tumour consists of a somewhat œdematous fibrous tissue of loose texture containing so many lymph clefts that in places one might almost term it a lymphangioma. There are also very numerous newly-formed blood-vessels. Around the lymph clefts are many collections of lymphoid and epithelioid cells. Sections of the papilla-like protuberances show essentially the same appearances. The surface is covered with stratified epithelium, which, from its slightly-developed horny layer and absence of hair follicles, may be said to constitute a mucous membrane. I should be inclined to class this specimen provisionally as molluscum fibrosum. Dr. Kidd exhibited two excellent photographs of the tumour *in situ* before removal, which were kindly taken by Dr. J. Alfred Scott. The points of interest in the case were—the comparative rarity of this form of growth; the presence of these cavities or sinuses permeating it; the size it had attained before relief was sought; the absence of serious trouble, both from hæmorrhage during the operation and from septic absorption when portion of the wound suppurated; the question as to whether the growth would be one likely to recur if any portion of it were left behind.

The **President** had only met with one case analogous to Dr. Kidd's, and that was in his private practice many years ago. The excessive growth of tissue, however, had not reached one-third of the dimensions seen in Dr. Kidd's case, still the disease caused great distress. There was marked pruritus. One of the labia was enormously enlarged. The tumour sprang from one side; the other side being healthy.

Dr. Jellett had the opportunity of observing a case in many respects similar to Dr. Kidd's. One labium was three times the size of the opposite labium. The skin was hypertrophied and pigmented, and over its surface a few hairs were to be seen scattered here and there. On section of the tumour he found traversing bands, white in colour and homogeneous in appearance. They were not unlike cartilage. He had some reason to think that the capsule of the tumour consisted of perineurium.

Dr. Kidd said that it was usual to refer cases like his to repeated attacks of an erysipelatous character, or to obstruction of the lymphatic channels. He could not trace a pathological connection in the present case between the tumour and the nerves. He could not agree with Dr. Jellett that the tumour originated in nervous tissue.

Eclampsia.

Dr. Hastings Tweedy read a paper on this subject. [It will be found in Vol. CI., page 206.]

Dr. Horne said, notwithstanding Dr. Tweedy's contribution, he was still of the opinion that as regards the pathology of the disease they were as much in the dark as hitherto. In attributing the disease to toxins, they were, he believed, begging the question, for the presence of those toxins had not been demonstrated. As regards blood-letting, he could not understand how it was a treatment applicable to all cases—for instance, to one patient who was plethoric, and to another who was anæmic. He spoke favourably of the treatment of eclampsia by ½-gr. doses of morphin, or corresponding doses of opium. He also expressed himself in favour of croton oil—a drop being placed on the back of the tongue. He had experience of pilocarpin in one case, and, although in that case he himself did not administer the drug, under its influence the woman rapidly developed œdema of the larynx. He did not assent to Dr. Tweedy's theory as to the elimination of ptomaïns by blood-letting.

The **President** said that the danger of the convulsions is infinitely greater when they occur in the early stages than when they occur in the later stages of labour. He had induced premature labour successfully in two or three cases. Under certain conditions he would be prepared to adopt the same line of treatment again. However, he regarded such a procedure as a very serious one.

Dr. Alfred Smith pointed out the fact that some German investigators were inclined to believe that acetones in the blood was the cause of eclampsia. The recognised treatment of eclampsia was by large doses of morphin. He followed the practice that obtained at the Rotunda, when he was Assistant Master to that institution—chloroform, purgation, bromide of potassium, &c.—in two cases, which had occurred in his private practice, and with satisfactory results. They should take their instruction from the large institutions, and when the statistics of such institutions demonstrated the value of opium, the opium line of treatment would be adopted. He would be satisfied with the treatment adopted by Dr. Macan until some better method was discovered.

Dr. Smyly observed that the difference of opinion on the question of the treatment of eclampsia arose chiefly from the habit of forming conclusions on the experience gained of one or two or a dozen cases. No matter what the treatment they had recourse to, sometimes they would get a run of successful cases, and sometimes the reverse. To his mind the question of inducing premature labour or not, was by no means a practical one; for the induction of labour occupies considerable time, and causes great reflex action. He believed chloroform increased the tendency to death. If the patient's death was inevitable, he did not think it was a matter of great consequence whether she died in convulsions or not.

Dr. McWeeney did not think there was anything special about the eclamptic kidney or anything special about the toxæmic condition of the urine. He held with Bouchard that eclampsia was an auto-intoxication. He had not, when examining for Dr. Horne a specimen of eclamptic urine, the means of demonstrating toxins, otherwise than by experiments on animals. He said that in eclamptic urine albumen in a greater or lesser degree was always present. A microscopic examination of that fluid invariably revealed hyaline tube casts. Bouchard proved that toxins could be eliminated by acting on the bowels; but the question of the administration of purgatives should be determined by the condition of the patient; and mentioned that small vessels had been found plugged with a tissue, structurally identical with the chorion.

Dr. Lane dwelt on the necessity for prophylactic treatment—dietetic treatment. He thought morphin inferior to pure opium. Dr. Lane made a passing reference to serum treatment.

Dr. Parsons could not consider the treatment by chloroform a rational method, since it was well known that that drug depresses the higher cortical centres. By giving opium they were likewise introducing into the system a substance which exercises a depressing effect on the heart. Opium, however, was a less dangerous drug than chloroform. He failed to understand the advantage to be derived from sweating the patient, in face of the fact that Dr. Purser had assured him that there was more urea in one drop of urine than in as much sweat as would cover the body from head to foot. He regarded pilocarpin as simply a poison in this disease, since it paralyses the sensorium, already too depressed.

Dr. Macan ridiculed the theory that attributed eclampsia to plugging of small cerebral vessels.

Dr. Tweedy said that success in the treatment of eclampsia largely depended on attention to details. He mentioned many of those details—as, for instance, turning the patient on her side during administration of chloroform.

The Section then adjourned.

SECTION OF SURGERY.

President—**Sir Thornley Stoker**, President of the Royal College of Surgeons in Ireland.

Sectional Secretary—**Kendal Franks**, F.R.C.S.I.

Friday, January 10, 1896.

The **President** in the Chair.

Complete Excision of the Larynx, with subsequent Powers of Vocalisation.

Mr. R. H. Woods showed a man whose entire larynx had been excised in 1892 by Dr. Solis Cohen, of Philadelphia. The trachea opened externally in the middle line of the neck in front, and there was no communication whatever between the mouth and the respiratory organs. The man was, however, able to vocalise. Mr. Woods believed this was accomplished by gulping air into the œsophagus, and that this air was forced up again by pressure from below. The sound was made by muscular fibres or bands in the œsophagus, which had gradually been trained to perform this function. The case elicited a great deal of interest.

Report of a Case of Operation for Pulsating Tumour of the Temporal Region, of Twenty Years' Standing.

Prof. C. Yelverton Pearson (Cork) showed a photograph and read the report of a case of pulsating tumour of the left temporal region, on which he had successfully operated in October, 1894. The tumour occupied the entire temporal fossa, and was bound down by the temporal fascia. With the exception of a few fibres, the temporal muscle had disappeared. In structure it consisted of a convoluted mass of dilated and tortuous thin-walled bloodvessels, which were so fragile that they would bear neither ligature nor compression with forceps. The entire mass, owing to the great severity of the hæmorrhage, was cut away with the Paquelin's cautery-knife, which had also to be inserted into a fissure in the coronal suture, through which large vessels of communication passed. The tumour, which probably originated from a head-injury, had been nearly twenty years in existence, and the operation was undertaken at the earnest solicitation of the patient owing to the increasing severity of the symptoms, which consisted of intense pain either on stooping or throwing the head back, insomnia, dizziness, throbbing sensations, and inability for occupation. The aneurysm was supplied chiefly by the middle, meningeal, and deep temporal arteries. The patient is now in excellent health, has no pain or other disagreeable sensation, and sleeps well.

The **President** thought that it was not possible to form a diagnosis with any great degree of certainty. He mentioned the case of a girl, aged seventeen, with a pulsating tumour at the junction of middle and lower third of thigh. The tumour had a connection with the bone. There was tremendous hæmorrhage, to check which pressure on the femoral trunk above the tumour was ineffectual. The tumour was supplied from bloodvessels in the bone. He thought amputation at the hip-joint was the right proceeding in such a case.

Dr. Bennett congratulated Prof. Pearson on his paper. He would like to know from Prof. Pearson whether (1) there was any *bruit* heard previous to operation; (2) whether pressure on the carotid was carried out with a view to stopping the bleeding. Pressure on the common carotid could be kept up so completely under anæsthesia that it would control the hæmorrhage, at least for a time. Pressure in Sir. T. Stoker's case would be of no use, but things were different in tumours of this kind occurring in the head.

Mr. Kendal Franks congratulated Prof. Pearson on his extremely interesting case. He asked what was the condition of the bone. From what he could gather there was a fissure in the bone, through which fissure a circoid aneurysm existing within the skull was continuous with a similar aneurysm outside it.

Mr. Thomson thought that one of the most interesting features of this most interesting case was its subsequent history, as detailed by Prof. Pearson. He took it, of course, that what was removed was only part of the tumour, for, from what he could gather, he believed there was a tumour within the skull, perhaps not so large, but of the same character as that which appeared outside. Now, when Prof. Pearson removed the outer portion of the tumour, what became of the inside portion if it was of the same character? What happened in Prof. Pearson's case probably was, the sealing up of the vessels on the outside had the effect of what was called distal ligature. Prof. Pearson's difficulty with the hæmorrhage was in the fact that the tumour was fed by vessels inside the skull. He knew the difficulty of getting ligatures to hold in those cases, but he was not sure that the application of the cautery would be a reliable method in the next case.

Prof. Pearson, in reply, expressed his thanks to the Academy for the kind manner in which his paper was received. In reply to Prof. Bennett, he said there was no *bruit* present. Compression of the common carotid was resorted to to check the hæmorrhage. He regarded the case not as one of pulsating tumour of bone, but as a case of aneurysm by anastomosis. He regarded the intra-cranial aspect of the case as very serious. He believed, with Dr. Thomson, that there was a free communication between the aneurysm inside and that outside the skull. He mentioned that, in his case, the bones were sound, though much thinned. The arteries coming through the squamous portion of the temporal bone were much dilated.

Tubercular Disease of the Hip-joint.

Mr. Swan read a paper on this subject. He reviewed the pathology of the affection, and quoted statistics from the Orthopædic Hospital to show the comparative frequency of hip-joint disease in hospital beds, as opposed to spinal affections, which, although positively more numerous, are capable of being treated more easily in their own homes. This he accounted for by the greater frequency of suppuration and its consequences, in hip cases. He reviewed the various deformities incidental to the disease and their mechanics. He deprecated the procedure of removing a tubercular deposit in the trochanter or neck of the femur, as a routine, for a variety of reasons—the difficulty of accurate diagnosis, the danger of sepsis, and the retrogressive changes tending towards cure, being a few. He showed an ingenious arrangement for easily adapting a stirrup in extension, and went at some length into the application of that remedy.

The **President** said that if ever there was a paper calculated to elicit discussion it was this. The paper was one of great ability and the result of great practical experience. One of the most interesting matters put forward by Mr. Swan was his dissertation on the existence of tubercle in parts other than where it exhibited itself. That was a question on which they now felt certain. There was another matter on which he entertained a growing opinion, and that is that in the great majority of cases of tubercular spine disease the bones are the centres of the affection. The disease of one joint—the knee—confirms him in this opinion. Many cases, known clinically as tubercular synovitis, in reality belonged to the osteal class; and abscesses regarded as of the soft parts were old tubercular abscesses, originating in bone.

Prof. C. Y. Pearson supported the statement of the President, that most of the cases regarded as tubercular disease of the synovial membrane have really their origin in the bone.

Mr. Kendal Franks thought that the bone was generally the starting point of tubercular mischief. He had for years given up the operation of arthrectomy. In cases of knee-joint disease, where the ends of the bones looked healthy and the disease seemed limited to the soft tissues, section of the bone generally showed an abscess in the condyle of the femur or head of the tibia.

Mr. Thomson was very strongly of opinion that in the vast majority of tubercular diseases of joints, the cause was due to injury. But in many cases the injury was so slight that it was not complained of until damage had been done to the bone. The vast majority of these tubercular joints they saw occurring in children; and they were not accustomed to deal with morbus coxæ after the growing age was passed. He thought it was not a matter of very great importance whether the disease began in the bone or synovial membrane; for, wherever it began, both bone and synovial membrane were engaged at the time they saw the disease. Personally, he believed the disease began in the bone and spread to the synovial membrane. He was strongly opposed to erasion.

He never did an erasion, and so far as he knew he would never perform the operation, because it was theoretically bad, and its results were such as did not encourage one to give it a trial.

Mr. Chance congratulated Mr. Swan on his paper. The only point on which he differed from him was in regard to his treatment by adduction. He thought Mr. Swan's method of extension an excellent one, but inferior to extension by a wire splint he described.

The **President** said he had been looking for a case suitable for erasion, and had not found one. An erasion had been done in a case elsewhere, seven years ago, and supposed to be cured. The operation of excision had become necessary and showed that the bones were full of tubercular centres.

Mr. Swan thanked the meeting for the manner in which they had received his paper. The speakers, he said, were unanimous in their condemnation of arthrectomy. He, too, condemned it.

The Section then adjourned.

SECTION OF MEDICINE.

President—T. W. **Grimshaw**, M.D., President of the Royal College of Physicians of Ireland.

Sectional Secretary—A. N. **Montgomery**, M.R.C.P.I.

Friday, January 17, 1896.

The **President** in the Chair.

An Enteric Rash.

Dr. J. M. Day read a paper on a case of enteric fever in which a peculiar rash, resembling that of typhus fever, was present.

Dr. J. W. Moore said the case showed the necessity for a fever wing being attached to every hospital, as the patient in the first instance was admitted to a general ward in the Meath Hospital. When he first saw the case, he had no hesitation in pronouncing it one of typhus fever, but that it was not so, but enteric fever, the temperature chart now shown proved absolutely. He never saw a case more like typhus in the early stage. The case could not be left in the general ward, and had to be sent to Cork-street Fever Hospital. With regard to the case, he thought from the number of the spots, their unusually dark colour, and their irregular size, that they were those of typhus fever rather than an enteric rash.

Dr. Pollock said he had seen several cases in which there was the rose-coloured rash all over the body, together with all the other symptoms of typhoid, yet they were cases of typhus. The brain became rapidly involved, and all the cerebral symptoms manifested themselves.

The **President** gave some details of a case, apparently of typhus fever, but a fatal result produced by perforation proved that the case was one of typhoid. The late Dr. Kennedy believed there were some cases of mixed typhoid and typhus fever. The President mentioned a number of cases that occurred in Bishop-street, in which both rashes co-existed simultaneously in the same patient. He said that enteric fever was not so fatal 25 years ago as it is at present. He had never lost a typhoid patient in Cork-street Hospital, but this he did not attribute to his superior skill, but to the mild form the disease assumed at the time he was connected with that Institution; on the other hand, cases of typhus fever were then far more numerous.

Dr. Day briefly replied.

Fatal Case of Chorea.

Dr. James Little related the particulars of a case of chorea which proved fatal. The patient was a young woman, aged about twenty years.

Dr. Alfred Scott found at the *post-mortem* examination some very small vegetations on the mitral valve; otherwise the heart and viscera were normal. The brain was removed and sections from various parts examined. In the large ganglionic cells in the motor area of the cortex, a yellowish degenerated patch could be seen, which was blackened by osmic acid. Dr. Scott thought that this degeneration was probably caused by fatigue, resulting from the excessive choreic movements and not the cause of the disease.

Dr. Pollock mentioned the case of a young woman, aged eighteen, attacked by chorea. This case recovered. The spasms were very marked. Bromide of potassium, 20 grs. twice daily, and 30 grs. at bed-time, gave some hours' rest, but the moment the drug was discontinued the spasms returned as bad as ever. He administered arsenic in minute quantities. There was endocarditis and a murmur. Joints were also affected.

Dr. Dawson said he would like to ask Dr. Scott at what stage in the hardening process he made the section. He considered the degeneration like that which commonly accompanied insanity. He believed it was due to over-action of the cells. He would like to know the nature of the staining substance used?

Dr. Boyd wanted to know if an examination of any other portion of the nervous system, except the cortex, was made;

whether the ganglia at the base of the spinal cord were examined; and whether attention was paid to the condition of the capillaries.

Dr. Cox gave the details of a case of chorea. It was a child. The faculty of speech was lost completely; temperature high—104°; great wasting of muscles of both arms and body; unable to support head; food administered with great difficulty. Things looked as if the case would terminate fatally. He tried bromide of potassium, but found it of little use. What had a decidedly good effect was Easton's syrup with arsenic. The strychnin he gave, after some hesitation, in the hope of stimulating the respiratory centre, for he was alarmed lest the respiration would stop at any moment. She recovered. He believed that the spinal cord played as important a part as the brain in the production of chorea.

Dr. Pollock said he had given strychnin in chorea, but never found it of use.

Dr. Knott gave the details of a case, and pointed out what he considered the important circumstance about it was that the rheumatic symptoms followed the choreic symptoms.

Dr. Harley stated the details of some cases of chorea in a children's school that came under his notice.

Dr. Parsons said chorea in persons over twenty years of age is a rare affection. The absence of pregnancy in Dr. Little's case added to its interest. He thought the vast majority of cases would recover if left alone. Only three per cent. of ordinary cases die, whereas when the disease occurs in people over twenty, according to Dr. Gowers, who had collected a large number of cases, the mortality was 20 per cent. Death, he (Dr. Parsons) thought, was due to exhaustion. He did not believe in the embolic theory. The injection of minute particles was a recognised fact; but it was difficult to see why they should select one carotid and go to one side of the brain.

Dr. Craig gave the details of cases to show that chorea was often due to fright. In Dr. Cox's case he believed it was the arsenic did good; 5–10 minims of liq. arsenicalis thrice daily might be given to children.

Dr. Doyle dwelt on the presence of uric acid in the blood as a possible cause of chorea.

Dr. Bewley said that by gradually increasing the doses arsenic might be given with no harm, but with much good. As regards the pathology, he said they knew nothing at all about it, nor were they likely to do so. They were completely ignorant of changes that took place in the cells of the brain; yet something did take place to account for the impulse that travelled down to the muscles when thrown into action. The cells of the cortex appeared to him to be the seat of these changes.

Dr. S. M. Thompson advocated the use of chloral hydrate.

Dr. Little, in reply, said, to answer the last speaker, first he might say that the first drug employed in his case was chloral hydrate, but without any good effects. After its failure he tried other remedies. Of course they all knew that the majority of cases that come into hospital suffering from chorea will get well without treatment, with treatment, or even in spite of treatment. Other cases there are that will tax the resources of the physician, and sometimes we come face to face with people with whom relief of symptoms for even a short time can be given, and thereby, as Dr. Thompson said, turn the balance between life and death. He mentioned a case, the child of a friend of his, that came under his care 18 years ago, and in her case nothing did so well as bromide of sodium at night and arsenic thrice daily. He believed that small doses of strychnin might do good in some cases of chorea. In answer to Dr. Boyd, he said the embolic theory was not originated by Dr. Hughlings Jackson. He believed the embolic theory was now almost universally abandoned.

Dr. Scott, in reply to Dr. Boyd, said he had not examined the basic ganglia. He found no change in the capillary vessels, nor any changes in the medulla. In reply to Dr. Dawson, he said that at the time of section the brain was half hardened. He used blue-black, and also another form of blue stain.

The Section then adjourned.

SECTION OF ANATOMY AND PHYSIOLOGY.

President—Johnson Symington, M.D.

Sectional Secretary—A. Birmingham, M.D.

Friday, January 24, 1896.

The President in the Chair.

The President said that before commencing the business of the evening he desired to express his appreciation of the honour done him by electing him President of the Anatomical and Physiological Section of the Academy of Medicine. And this honour, he thought, was enhanced by the fact that he did not reside in Dublin. When asked to fill the post of President he did so with some reluctance, because, among other things, geographical difficulties would prevent him from devoting proper attention to the work of the Section. He dwelt on the great advantage of combining Anatomy and Physiology in one Section. And the fact that Prof. Purser was about to read the first paper, was a proof that physiology was not neglected by the Academy. Again he expressed his sense of the honour done him and the institution with which he was connected; and he then declared the business of the meeting opened.

Exhibits.

The **President** exhibited a pulmonary artery with four valves. The four flaps were well-developed, and of nearly equal size; two of them were somewhat more closely connected together than the others. The President remarked that a valve of three flaps was probably more efficient than one with four, for, in the former case, a flap was always placed opposite the interval between the other two, so that more perfect closure was thus secured; while with four flaps the interval between any two was in the line of the interval between the remaining two, this, he thought, would not produce such a perfect valve.

Dr. Woods dwelt on the position of the cleft between the valves; he did not, however, think that this was a sufficient reason for the presence of three valves instead of a greater or lesser number. He spoke of the connection between the number of valves, and their power of sustaining a column of blood. He said if there were six valves, their attachment would have to be so close that there would be a danger of their flapping back into the heart and allowing blood to regurgitate.

Dr. Birmingham was of opinion that the President's view was the correct one. Three flaps ensured more perfect closure. He thought a valve of four or six flaps would be quite as capable of sustaining the column of blood as one of three, for it should be remembered that the attachment of the flaps was not along a horizontal line around the orifice, and that they did not lie in a horizontal plane, but really formed, with the walls of the artery, a series of pockets which bulged out, when distended, and met in the lumen of the tube.

Mr. Frazer thought the discussion was going beyond its proper limits, when they argued as to the relative merits of three and four valves. He wished to know could the presence of a fixed number of flaps be explained on developmental grounds.

The **President** exhibited, for Professor Cunningham (who was unavoidably absent), three puppies of the Cape hunting dog (*Lycaon*

Pictus), which were born in the Dublin Zoological Gardens. Unfortunately the puppies, which are very rare and valuable, only survived their birth a few days. Some of the peculiarities of the animal were pointed out, and the interesting fact that the period of gestation was considerably longer than in the common dog, was mentioned.

Stimulation of the Pneumogastric Nerve.

Prof. Purser made a communication on the stoppage of respiration, which sometimes follows stimulation of the peripheral end of the pneumogastric nerve, and pointed out that this event may explain certain cases of sudden death, which are often attributed to primary stoppage of the heart: as in death resulting from a blow on the abdomen, or death from inhalation of chloroform.

Mr. Frazer said he was the first person who administered chloroform in Dublin, and he never had a fatal case. He attributed his success to watching the respiration. He did not believe a right explanation had been given of the cause of death in fatal cases. The symptoms in those fatal cases mentioned were undoubtedly respiratory, not cardiac. He made it a point in the administration of chloroform to watch the respiration, and when the breathing became embarrassed, to stop the inhalation.

Dr. Parsons gave the history of three cases which he said pointed to the conclusion that death from inhalation of chloroform was to be attributed to cessation of respiration rather than to stoppage of the heart's action. The heart, he said, may beat for a few minutes after the respiratory functions had ceased. He would like to know Professor Purser's opinion as to the effect of nitrite of amyl.

Dr. D. J. Coffey, in discussing Professor Purser's paper, suggested that the fact that the inhibition of the heart, brought about by peripheral stimulation of the vagus, is not permanent, does not warrant the conclusion that a permanent inhibition cannot be determined by reflex excitation. In the latter case, powerful impulses roused in afferent nerves fall on the cardio-inhibitory centre, and the conditions are very different from those in peripheral excitation.

Prof. Birmingham asked if the author had in any of his experiments on animals, or in other cases, seen death due primarily to stoppage of the heart while respiration was unaffected?

Prof. Purser, in replying, said it would be a dangerous condition of things if reflex impulses travelling along the pneumogastric could cause death by inhibition of the heart. He agreed with Dr.

Coffey that a message sent down the vagi, from a reflex centre in the brain, might produce results very different from excitation of the peripheral portion of the cut nerve. He had never seen a human being die of chloroform. In a series of experiments on animals, where death took place from chloroform, he never found the heart stop before the respirations. He could not give Dr. Parsons any information on the subject of nitrite of amyl; he had never experimented on animals with the drug; he had, however, prescribed it in practice with satisfactory results. In reply to Dr. Birmingham, he said he had never seen such a case.

The Homology of the Dumb-bell-shaped bone in the Ornithorhynchus.

Prof. Symington described the form and relations of the dumb-bell-shaped bone in the ornithorhynchus, based upon the microscopic examination of serial sections of the beak of this animal. He discussed the theories as to its homology, and considered that it corresponded to the mesial palatine process of the premaxilla of ordinary mammals. If, therefore, the dumb-bell bone be a true "anterior vomer," this element is also represented in the majority of other animals by a process of the premaxilla. Various objections were brought forward against the vomerine theory, and it was held that on the whole the evidence was in favour of associating it with the premaxilla rather than with the vomer.

Prof. Birmingham said that the subject of the President's paper was one which was exciting considerable discussion at present. Few of them had an opportunity of investigating the question at first hand, and they were much indebted to the author for giving them this opportunity of examining his beautiful specimens.

The Topographical Anatomy of the Pancreas, Duodenum, Spleen, and Kidneys.

Prof. Birmingham made a communication on the topographical anatomy of some of the abdominal viscera, which he illustrated by a plaster cast. The cast was prepared from a body in which the viscera had been previously hardened *in situ*, by the injection of a solution of chromic acid. The cast gave a very clear idea of the condition of the pancreas, spleen, duodenum, kidneys and supra-renals; it also showed particularly well what the exhibitor called the "stomach bed." The author remarked that in probably the majority of cases the stomach assumed, when empty, an attenuated pear shape, and rarely if ever became flattened, as often represented. The greater part of the stomach in this condition lay nearly horizontally with its long axis from behind forward, the narrow end bending to the right. He believed that during distension the enlargement was more in a direction forwards and to the right than downwards. The duodenum did not lie in a coronal place as usually represented, on the contrary it is strongly flexed (moulded) round the right side of the vertebral column. He also pointed out that the descending duodenum lies not in front of the inferior cava, but to its outer side. The cast gave a very striking demonstration of the shape and position of the pancreas. The inferior surface is of much greater extent than is represented in His's models. This, the author considered to be the usual condition. The surfaces and angles of the spleen, as lately described by Professor Cunningham, are very distinctly shown. Many other points of interest are illustrated by the cast.

The PRESIDENT said they had reason to feel obliged to Prof. Birmingham for the great trouble he had taken in the preparation of his cast. He had spent, he said, some time in considering the positions and relations of the abdominal organs, and to acquire accurate knowledge in this respect was a matter of great difficulty. On these questions there could be no doubt but that the opinions of the older anatomists are extremely fallacious. He felt bound to protest against many statements in reference to the relations of the abdominal viscera, contained in text books. It was the duty of anatomists, so far as lay in their power, to supply physicians with accurate descriptions of those viscera. He agreed with the author that when empty, a greater part of the stomach was horizontal in position. As regards closure of the pylorus, it was not effected by contraction of the pylorus alone, but by contraction taking place about an inch on the cardiac side. He believed there was a good deal of work to be done in regard to the pathology of the abdominal organs, for instance, in tracing the effect of enlargement of one organ upon neighbouring organs. He pointed out that an enlarged liver may not push down the right kidney, the hepatic enlargement passing down in front of the latter organ. He believed the frozen section method employed by many anatomists was a source of mistakes. He expressed a high opinion of formalin as a hardening agent.

The Section then adjourned.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. Moore, B.A., M.D., Univ. Dubl.;
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Vital Statistics

For four Weeks ending Saturday, May 16, 1896.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000:—

Towns		Weeks ending			Towns		Weeks ending		
	April 25.	May 2.	May 9.	May 16.		April 25.	May 2.	May 9.	May 16.
Armagh -	7·0	0·0	14·0	14·0	Limerick -	29·5	23·9	12·6	11·2
Belfast -	31·0	25·6	26·3	27·1	Lisburn -	25·7	34·1	25·7	17·0
Cork -	18·7	19·4	18·0	16·6	Londonderry	23·6	26·7	25·1	36·1
Drogheda -	35·1	4·4	17·6	4·4	Lurgan -	4·6	31·9	18·2	31·9
Dublin -	22·7	22·7	21·0	22·1	Newry -	28·2	20·1	12·1	20·1
Dundalk -	20·9	12·6	8·4	20·9	Sligo -	10·2	25·4	40·6	0·0
Galway -	8·8	18·9	26·4	3·8	Waterford -	45·0	27·5	12·5	22·5
Kilkenny -	61·4	18·9	14·2	0·0	Wexford -	40·6	4·5	9·0	18·1

In the week ending Saturday, April 25, 1896, the mortality in thirty-three large English towns, including London (in which the rate was 19·3), was equal to an average annual death-rate of 19·5 per 1,000 persons living. The average rate for eight principal towns of Scotland was 19·9 per 1,000. In Glasgow the rate was 20·7. In Edinburgh it was 20·5.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 25·9 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen

districts were equal to an annual rate of 1·4 per 1,000, the rates varying from 0·0 in thirteen of the districts to 5·1 in Sligo—one of the 2 deaths from all causes registered in that district having been caused by whooping-cough. Among the 165 deaths from all causes registered in Belfast are 8 from measles, 2 from scarlatina, 1 from typhus, 1 from whooping-cough, 1 from diphtheria, 1 from simple continued fever, 8 from enteric fever, and 2 from diarrhœa.

In the Dublin Registration District the registered births amounted to 210—101 boys and 109 girls: and the registered deaths to 156—79 males and 77 females.

The deaths, which are 34 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 23·3 in every 1,000 of the population. Omitting the deaths (numbering 4) of persons admitted into public institutions from localities outside the district, the rate was 22·7 per 1,000. During the first seventeen weeks of the current year the death-rate averaged 24·9, and was 6·8 under the mean rate in the corresponding period of the ten years 1886–1895.

The number of deaths from zymotic diseases registered was 11, being 1 over the low number for the preceding week, but 10 under the average for the 17th week of the last ten years. The 11 deaths comprise 1 from scarlet fever (scarlatina), 4 from influenza and its complications, and 3 from whooping-cough.

No cases of small-pox were admitted to hospital. Three small-pox patients were discharged, and 2 remained under treatment on Saturday, being 3 under the number in hospital at the close of the preceding week.

The number of cases of enteric fever admitted to hospital was 5, being 3 under the admissions in the preceding week, and 4 under those in the week ended April 11. Six patients were discharged, and 42 remained under treatment on Saturday, being 1 under the number in hospital at the close of the preceding week.

Forty-one cases of scarlatina were admitted to hospital against 23 admissions in the preceding week, and 25 in that ended April 11. Twenty-two patients were discharged, and 170 remained under treatment on Saturday, being 19 over the number in hospital on that day week.

Deaths from diseases of the respiratory system which had fallen from 35 in the week ended April 11 to 24 in the following week, rose to 33; but this number is 7 below the average for the corresponding week of the last ten years. The 33 deaths consist of 20 from bronchitis and 13 from pneumonia or inflammation of the lungs.

In the week ending Saturday, May 2, the mortality in thirty-three large English towns, including London (in which the rate was 18·5), was equal to an average annual death-rate of 18·4 per 1,000 persons living. The average rate for eight principal towns of Scotland was 19·0 per 1,000. In Glasgow the rate was 19·0, and in Edinburgh it was 17·7.

The average annual death-rate in the sixteen principal town districts of Ireland was 23·0 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·1 per 1,000, the rates varying from 0·0 in eight of the districts to 5·1 in Sligo—the 5 deaths from all causes registered in that district comprising 1 from whooping-cough. Among the 136 deaths from all causes registered in Belfast are 3 from measles, 6 from scarlatina, 3 from whooping-cough, 3 from diphtheria, 2 from enteric fever, and 2 from diarrhœa. The 17 deaths in Londonderry comprise 1 from measles, 1 from enteric fever, and 1 from diarrhœa.

In the Dublin Registration District the registered births amounted to 229—125 boys and 104 girls; and the registered deaths to 159—87 males and 72 females.

The deaths, which are 24 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 23·7 in every 1,000 of the population. Omitting the deaths (numbering 7) of persons admitted into public institutions from localities outside the district, the rate was 22·7 per 1,000. During the first eighteen weeks of the current year the death-rate averaged 24·9, and was 6·6 under the mean rate in the corresponding period of the ten years 1886–1895.

The number of deaths from zymotic diseases registered was 15, being 4 over the low number for the preceding week, but 7 under the average for the 18th week of the last ten years. The 15 deaths comprise 6 from scarlet fever (scarlatina), 1 from influenza, 2 from whooping-cough, 1 from enteric fever, 2 from diarrhœa and vomiting, and 1 from diarrhœa.

No cases of small-pox have been admitted to hospital since the close of the week ended April 11. One small-pox patient was discharged, and 1 only remained under treatment in hospital on Saturday.

Six cases of enteric fever were admitted to hospital, being 1 over the admissions in the preceding week, but 2 under the number in the week ended April 18. Eight patients were discharged, 1 died, and 39 remained under treatment on Saturday, being 3 under the number in hospital on the previous Saturday.

The number of cases of scarlatina admitted to hospital was 33, being 8 under the admissions in the preceding week, but 10 over the number in the week ended April 18. Twenty-nine patients were discharged, 3 died, and 171 remained under treatment on Saturday, being 1 over the number in hospital at the close of the preceding week.

Only 19 deaths from diseases of the respiratory system were registered, being 18 below the average for the corresponding week of the last ten years, and 14 under the number for the previous week. They comprise 11 from bronchitis and 6 from pneumonia or inflammation of the lungs.

In the week ending Saturday, May 9, the mortality in thirty-three large English towns, including London (in which the rate was 17·9), was equal to an average annual death-rate of 18·5 per 1,000 persons living. The average rate for eight principal towns of Scotland was 18·9 per 1,000. In Glasgow the rate was 19·5, and in Edinburgh it was 17·1.

The average annual death-rate represented by the deaths registered in the sixteen principal town districts of Ireland was 21·7 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·6 per 1,000, the rates varying from 0·0 in eleven of the districts to 11·0 in Londonderry—the 16 deaths from all causes registered in that district comprising 5 more from measles, 1 from scarlatina, and 1 from diarrhœa. Among the 140 deaths from all causes registered in Belfast are 7 from measles, 4 from scarlatina, 8 from whooping-cough, 1 from diphtheria, 2 from enteric fever, and 3 from diarrhœa.

In the Dublin Registration District the registered births amounted to 237—128 boys and 109 girls; and the registered deaths to 147—81 males and 66 females.

The deaths, which are 23 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 21·9 in every 1,000 of the population. Omitting the deaths (numbering 6) of persons admitted into public institutions frem localities outside the district, the rate was 21·0 per 1,000. During the first nineteen weeks of the current year the death-rate averaged 24·7, and was 6·5 under the mean rate in the corresponding period of the ten years 1886–1895.

Nineteen deaths from zymotic diseases were registered, being 1 over the average for the corresponding week of the last ten years, and 4 over the number for the previous week. They comprise 3 from scarlet fever (scarlatina), 1 from typhus, 3 from influenza and its complications, 1 from diphtheria, 1 from ill-defined fever, 5 from enteric fever, 2 from diarrhœa, and 1 from erysipelas.

Only 3 cases of enteric fever were admitted to hospital, being 3 under the admissions in the preceding week, and 2 under those in the week ended April 25. One enteric fever patient was discharged, 2 patients died, and 39 remained under treatment on Saturday, being equal to the number in hospital at the close of the preceding week.

Thirty-five cases of scarlatina were admitted to hospital, being 2 over the admissions in the preceding week, but 6 under those in the week ended April 25. Thirty-one patients were discharged, 2 died, and 173 remained under treatment on Saturday, being 2 over the number in hospital on that day week.

The number of deaths from diseases of the respiratory system registered was 24, being 5 over the low number for the preceding week, but 8 under the average for the 19th week of the last ten years. The 24 deaths comprise 9 from bronchitis and 11 from pneumonia or inflammation of the lungs.

In the week ending Saturday, May 16, the mortality in thirty-three large English towns, including London (in which the rate was 17·8, was equal to an average annual death-rate of 18·4 per 1,000 persons living. The average rate for eight principal towns of Scotland was 19·3 per 1,000. In Glasgow the rate was 21·1, and in Edinburgh it was 18·8.

The average annual death-rate in the sixteen principal town districts of Ireland was 22·1 per 1,000 of the population.

The deaths from the principal zymotic diseases registered in the sixteen districts were equal to an annual rate of 2·5 per 1,000, the rates varying from 0·0 in nine of the districts to 11·0 in Londonderry—the 23 deaths from all causes registered in that district comprising 5 more from measles and 2 from diarrhœa. Among the 144 deaths from all causes registered in Belfast are 12 from measles, 5 from scarlatina, 4 from whooping-cough, 1 from diphtheria, 1 from enteric fever, and 4 from diarrhœa.

In the Dublin Registration District the registered births amounted to 227—112 boys and 115 girls; and the registered deaths to 153—72 males and 81 females.

The deaths, which are 23 under the average for the corresponding week of the last ten years, represent an annual rate of mortality of 22·8 in every 1,000 of the population. Omitting the deaths (numbering 5) of persons admitted into public institutions from localities outside the district, the rate was 22·1 per 1,000. During the first twenty weeks of the current year the death-rate averaged 24·6 and was 6·3 under the mean rate in the corresponding period of the ten years 1886–1895.

Only 10 deaths from zymotic diseases were registered, being 10 below the average for the corresponding week of the last ten years, and 9 under the number for the previous week. They comprise 1 from scarlet fever (scarlatina), 2 from influenza and its complications, 1 from whooping cough, 1 from diphtheria, 1 from diarrhœa, and 1 from dysentery.

The hospital admissions for the week included 1 case of small-pox. This is the only case of the disease admitted since the week ended April 11. Two small-pox patients remained under treatment in hospital on Saturday.

Six cases of enteric fever were admitted to hospital, being 3 over the admissions in the preceding week, and equal to those in the week ended May 2. Thirteen patients were discharged, and 32 remained under treatment on Saturday, being 7 under the number in hospital at the close of the preceding week.

The number of cases of scarlatina admitted to hospital was 24, being 11 under the admissions in the preceding week, and 9 under those in the week ended May 2. Twenty-seven patients were discharged, and 170 remained under treatment on Saturday, being 3 under the number in hospital on that day week.

Twenty-eight deaths from diseases of the respiratory system were registered, being 4 over the number for the preceding week, but 2 under the average for the 20th week of the last ten years. They comprise 15 from bronchitis and 9 from pneumonia or inflammation of the lungs.

VITAL STATISTICS

For four Weeks ending Saturday, June 13, 1896.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

Towns	Weeks ending				Towns	Weeks ending			
	May 23	May 30	June 6	June 13		May 23	May 30	June 6	June 13
Armagh -	28·0	14·0	14·0	14·0	Limerick -	5·6	15·4	19·6	26·7
Belfast -	24·8	21·2	24·4	24·3	Lisburn -	8·5	29·8	4·3	12·8
Cork -	22·1	17·3	21·5	12·5	Londonderry	26·7	34·6	29·8	20·4
Drogheda -	35·1	4·4	22·0	17·6	Lurgan -	13·7	27·4	18·2	13·7
Dublin -	21·9	23·4	19·1	22·8	Newry -	20·1	24·1	28·2	28·2
Dundalk -	0·0	8·4	46·1	12·6	Sligo -	25·4	25·4	25·4	0·0
Galway -	49·1	26·4	22·7	18·9	Waterford -	62·5	22·5	22·5	10·0
Kilkenny -	28·6	51·9	42·5	28·3	Wexford -	18·1	22·6	13·5	22·6

In the week ending Saturday, May 23, 1896, the mortality in thirty-three large English towns, including London (in which the rate was 17·8), was equal to an average annual death-rate of 18·1 per 1,000 persons living. The average rate for eight principal towns of Scotland was 19·2 per 1,000. In Glasgow the rate was 20·9. In Edinburgh it was 17·3.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 23·3 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·1 per 1,000, the rates varying from 0·0 in ten of the districts to 12·5 in Waterford—the 25 deaths from all causes registered in that district comprising 5 from whooping-cough. Among the 132 deaths from all causes registered in Belfast are 3 from measles, 5 from scarlatina, 8 from whooping-cough, 1 from diphtheria, 1 from enteric fever, and 2 from diarrhœa.

In the Dublin Registration District the registered births amounted to 173—78 boys and 95 girls; and the registered deaths to 159—87 males and 72 females.

The deaths, which are 5 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 23·7 in every 1,000 of the population. Omitting the deaths (numbering 12) of persons admitted into public institutions from localities outside the district, the rate was 21·9 per 1,000. During the first twenty-one weeks of the current year the death-rate averaged 24·6, and was 6·0 under the mean rate in the corresponding period of the ten years, 1886–1895.

The number of deaths from zymotic diseases registered was 12, being 2 over the low number for the preceding week, but 7 below the average for the 21st week of the last ten years. The 12 deaths comprise 1 from small-pox—that of a woman, aged 35 years, who had not been vaccinated—1 from scarlet fever (scarlatina), 1 from typhus, 1 from influenza, 3 from whooping-cough, 2 from enteric fever, and one from diarrhœa.

No cases of small-pox were admitted to hospital. One of the two small-pox patients in hospital at the close of the preceding week died in the course of this week, and 1 remained under treatment on Saturday.

Eleven cases of enteric fever were admitted to hospital, against 6 admissions in the preceding week. Five patients were discharged and 38 remained under treatment on Saturday, being 6 over the number in hospital on the previous Saturday.

The number of cases of scarlatina admitted to hospital was 26, being 2 over the admissions in the preceding week, but 9 under those in the week ended May 9. Twenty-eight patients were discharged, 2 died, and 166 remained under treatment on Saturday, being 4 under the number in hospital at the close of the preceding week.

Diseases of the respiratory system caused 31 deaths, being 5 in excess of the average for the corresponding week of the last ten years, and 3 over the number for the previous week. The 31 deaths comprise 16 from bronchitis and 11 from pneumonia or inflammation of the lungs.

In the week ending Saturday, May 30, the mortality in thirty-three large English towns, including London (in which the rate was 16·9), was equal to an average annual death-rate of 17·6 per 1,000 persons living. The average rate for eight principal towns of Scotland was 19·2 per 1,000. In Glasgow the rate was 20·9, and in Edinburgh it was 15·2.

The average annual death-rate in the sixteen principal town districts of Ireland was 22·3 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·4 per 1,000, the rates varying from 0·0 in nine of the districts to 10·0 in Waterford—the 9 deaths from all causes registered in that district comprising 4 more from whooping-cough. Among the 113 deaths from all causes registered in Belfast are 3 from measles, 3 from scarlatina, 3 from whooping-cough, 8 from enteric fever, and 1 from diarrhœa. Of the 25 deaths in Cork 1 was from enteric fever and 1 from diarrhœa. Among the 22 deaths in Londonderry are 4 from measles, 1 from scarlatina, and 1 from diarrhœa. The 11 deaths in Kilkenny comprise 1 from whooping-cough and 1 from diarrhœa.

In the Dublin Registration District the registered births amounted to 164—89 boys and 75 girls; and the registered deaths to 160—82 males and 78 females.

The deaths, which are 2 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 23·9 in every 1,000 of the population. Omitting the deaths (numbering 3) of persons admitted into public institutions from localities outside the district, the rate was 23·4 per 1,000. During the first twenty-two weeks of the current year the death-rate averaged 24·5, and was 5·8 under the mean rate in the corresponding period of the ten years 1886–1895.

The number of deaths from zymotic diseases registered was 16, being 4 over the number for the preceding week, but 3 under the average for the 22nd week of the last ten years. The 16 deaths comprise one from varicella (chicken-pox), one from scarlet fever (scarlatina), 5 from influenza and its complications, 5 from enteric fever, 1 from diarrhœa, and 2 from dysentery.

No cases of small-pox were admitted to hospital. The small-pox patient in hospital at the close of the preceding week remained under treatment on Saturday.

The number of cases of enteric fever admitted to hospital was 7, being 4 under the admissions in the preceding week, but one over those in the week ended May 16. Seven patients were discharged, 2 died, and 36 remained under treatment on Saturday, being 2 under the number in hospital at the close of the preceding week.

Thirty-one cases of scarlatina were admitted to hospital, against 26 in the preceding week. Nineteen patients were discharged, 1 died, and 177 remained under treatment on Saturday, being 11 over the number in hospital on that day week.

The number of deaths from diseases of the respiratory system registered was 30, being 3 over the average for the corresponding week of the last ten years, but one under the number for the previous week. The 30 deaths comprise 12 from bronchitis and 18 from pneumonia or inflammation of the lungs.

In the week ending Saturday, June 6, the mortality in thirty-three large English towns, including London (in which the rate was 17·3), was equal to an average annual death-rate of 17·8 per 1,000 persons living. The average rate for eight principal towns of Scotland was 19·2 per 1,000. In Glasgow the rate was 21·5, and in Edinburgh it was 14·9.

The average annual death-rate represented by the deaths registered in the sixteen principal town districts of Ireland was 22·0 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·4 per 1,000, the rates varying from 0·0 in nine of the districts to 12·5 in Waterford—the 9 deaths from all causes registered in that district comprising 5 more from whooping-cough. Among the 130 deaths from all causes registered in Belfast are 7 from measles, 5 from scarlatina, 1 from whooping-cough, 1 from simple continued fever, 4 from enteric fever, and 2 from diarrhœa. The 19 deaths in Londonderry comprise 4 more from measles and 1 from diarrhœa.

In the Dublin Registration District the registered births amounted to 235—121 boys and 114 girls; and the registered deaths to 133—69 males and 64 females.

The deaths, which are 25 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 19·8 in every 1,000 of the population. Omitting the deaths (numbering 5) of persons admitted into public institutions from localities outside the district, the rate was 19·1 per 1,000. During the first twenty-three weeks of the current year the death-rate averaged 24·3, and was 5·7 under the mean rate in the corresponding period of the ten years 1886–1895.

Only 18 deaths from zymotic diseases were registered, being 6 below the average for the corresponding week of the last ten years, and 3 under the number for the previous week. They comprise 2 from scarlet fever (scarlatina), 1 from typhus, 1 from influenza, 1 from whooping-cough, 2 from ill-defined fever, and 2 from diarrhœa.

One case of small-pox was admitted to hospital—the only case received during the last three weeks. One small-pox patient was discharged, and one remained under treatment in hospital on Saturday.

Fifteen cases of enteric fever were admitted to hospital, being 8 in excess of the admissions for the preceding week, and 4 over the number in the week ended May 23. Three patients were discharged, and 48 remained under treatment on Saturday, being 12 over the number in hospital at the close of the preceding week.

The weekly number of cases of scarlatina admitted to hospital, which had risen from 26 in the week ended May 23, to 31 in the following week, further rose to 40. Thirty-three patients were discharged, and 184 remained under treatment on Saturday, being 7 over the number in hospital on that day week.

Deaths from diseases of the respiratory system, which were 31 in the week ended May 23, and 30 in the following week, fell to 23, or 4 under the average for the corresponding week of the last ten years. The 23 deaths comprise 11 from bronchitis, and 10 from pneumonia or inflammation of the lungs.

In the week ending Saturday June 13, the mortality in thirty-three large English towns, including London (in which the rate was 16·5), was equal to an average annual death-rate of 16·7 per 1,000 persons living. The average rate for eight principal towns of Scotland was 18·5 per 1,000. In Glasgow the rate was 21·2, and in Edinburgh it was 14·7.

The average annual death-rate in the sixteen principal town districts of Ireland was 21·5 per 1,000 of the population.

The deaths from the principal zymotic diseases registered in the sixteen districts were equal to an annual rate of 2·3 per 1,000, the rates varying from 0·0 in eleven of the districts to 7·9 in Londonderry—the 13 deaths from all causes registered in that district comprising 4 more from measles and 1 from diarrhœa. Among the 129 deaths from all causes registered in Belfast are 10 from measles, 4 from scarlatina, 1 from typhus, 2 from whooping-cough, 1 from simple continued fever, 4 from enteric fever, and 1 from diarrhœa.

In the Dublin Registration District the registered births amounted to 183—80 boys and 103 girls; and the registered deaths to 159—78 males and 81 females.

The deaths, which are 12 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 23·7 in every 1,000 of the population. Omitting the deaths (numbering 6) of persons admitted into public institutions from localities outside the district, the rate was 22·8 per 1,000. During the first twenty-four weeks of the current year the death-rate averaged 24·3, and was 5·5 under the mean rate in the corresponding period of the ten years, 1886–1895.

As in the week preceding, only 13 deaths from zymotic diseases were registered. This number is 8 below the average for the 24th week of the last ten years. The 13 deaths comprise 3 from scarlet fever (scarlatina), 1 from influenza, 4 from whooping-cough, 2 from enteric fever, 1 from diarrhœa, and 1 from erysipelas.

The only small-pox patient in hospital was discharged in the course of the week. No new cases were admitted, so that for the first time since the week ended May 26, 1894, the hospitals are free from cases of small-pox.

The number of cases of enteric fever admitted to hospital was 7, being 8 under the admissions in the preceding week, and equal to the number admitted in the week ended May 30. Six patients were discharged, 2 died, and 47 remained under treatment on Saturday, being 1 under the number in hospital at the close of the preceding week.

The cases of scarlatina admitted to hospital also show a decline as compared with the high number for the preceding week, the admissions being 33, or a falling off of 7. Twenty-four patients were discharged, 3 died, and 190 remained under treatment on Saturday, being 6 over the number in hospital an the previous Saturday.

Diseases of the respiratory system caused 30 deaths, being 5 in excess of the average for the corresponding week of the last ten years, and 7 over the number for the previous week. The 30 deaths comprise 11 from bronchitis, 13 from pneumonia or inflammation of the lungs, and 2 from croup.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ *N., Long.* 6° 15′ *W., for the Month of May,* 1896.

Mean Height of Barometer,	**30·308 inches.**
Maximal Height of Barometer (on 25th, 9 a.m.),	**30·558 „**
Minimal Height of Barometer (on 22nd, 9 a.m.),	**29·991 „**
Mean Dry-bulb Temperature,	**54·9°.**
Mean Wet-bulb Temperature,	**50·7°.**
Mean Dew-point Temperature,	**46·7°.**
Mean Elastic Force (Tension) of Aqueous Vapour,	**·321 inch.**
Mean Humidity,	**74·6 per cent.**
Highest Temperature in Shade (on 29th),	**71·8°.**
Lowest Temperature in Shade (on 1st),	**36·2°.**
Lowest Temperature on Grass (Radiation) (on 3rd),	**32·2°.**
Mean Amount of Cloud,	**42·9 per cent.**
Rainfall (on 7 days),	**0·190 inch.**
Greatest Daily Rainfall (on 18th),	**0·080 „**
General Directions of Wind,	**E., N.W.**

Remarks.

A beautiful month, very similar to May, 1895—bright and dry, without any severe nipping night frosts. Prevalent easterly sea breezes by day along the east coast of Ireland tempered the heat of an often unclouded sun. The amount of cloud was very low—only 42·9 per cent. At 9 a.m. it rose to 48·1 per cent., but at 9 p.m. it fell to 37·7 per cent. Rain fell in Dublin on only 7 days, and the total measurement was less than one-fifth of an inch, or about one-eleventh of the average rainfall for May.

In Dublin the arithmetical mean temperature (55·2°) was decidedly above the average (52·0°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 54·9°. In the thirty-one years ending with 1895, May was coldest in 1869 (M. T. = 48·2°), and warmest in 1893 (M. T. = 56·7°). In 1894 the M. T. was 49·2°; in 1895 it was 54·3°.

The mean height of the barometer was 30·308 inches, or 0·319 inch above the corrected average value for May—namely, 29·989 inches. The mercury rose to 30·558 inches at 9 a.m. of the 25th, and fell to 29·991 inches at 9 a.m. of the 22nd. The observed range of atmospheric pressure was, therefore, only 0·567 inch.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 54·9°, or 5·2° above the value for April, 1896 (49·7°). Using the formula, *Mean Temp. = Min. + (max.—min.* × ·47), the value was 54·7°, or 3·1° above the average mean temperature for May, calculated in the same way, in the twenty-five years, 1865–89, inclusive (51·6°). The arithmetical mean of the maximal and minimal readings was 55·2°, compared with a twenty-five years' average of 52·0°. On the 29th the thermometer in the screen rose to 71·8°—wind, N.; on the 1st the temperature fell to 36·2°—wind, N.N.W. The minimum on the grass was 32·2° on the 3rd.

The rainfall amounted to only ·190 inch, distributed over 7 days. The average rainfall for May in the twenty-five years, 1865–89, inclusive, was 2·030 inches, and the average number of rainy days was 15·4. The rainfall and the rainy days, therefore, were much below the average. In 1886 the rainfall in May was very large—5·472 inches on 21 days; in 1869, also, 5·414 inches fell on 19 days. On the other hand, in 1895, only ·177 inch was measured on but 3 days. In 1892 the large amount of 4·177 inches fell on 19 days. In 1893 the fall was 1·666 inches on 10 days; and in 1894, 3·558 inches on 17 days.

Solar halos were seen on the 13th, 21st, and 24th, lunar halos on the 19th, and an aurora on the 2nd. High winds were noted on but 3 days, attaining the force of a gale (from N.N.W.) on the 20th only. The atmosphere was slightly foggy on the 4th and 6th.

During the month the thermometer did not fall below 32° in the screen, but it indicated slight frost on the grass on the night of the 3rd. The mean minimal temperature on the grass was 43·1°, compared with 41·8° in 1895, 37·6° in 1894, 45·6° in 1893, 41·3° in 1892, 37·7° in 1891, 42·2° in 1890, 42·4° in 1889, 37·5° in 1888, and 37·9° in 1887.

On Friday, the 1st, an anticyclone was formed over Ireland, and this high pressure system continued to develop until the close of the week, quiet, cool, dry, fine weather being the result. The screened thermometers sank to 36·2° on Friday. An aurora borealis was seen on Saturday night.

Favourable weather held throughout the week ended Saturday, the 9th. The type was chiefly anticyclonic, with easterly winds, dry and fine. At the beginning an immense area of high pressure stretched across the British Islands, the North Sea and Scandinavia. The air was calm and the sky clear, so that the diurnal range of temperature was large, cold nights being followed at inland stations by warm days. On Monday the thermometer rose to 62° in London, while it fell to 36° during the ensuing night. Signs of a shallow depression at this time showed themselves off the N.W. of Ireland, so that the sky became cloudy over this country and rain fell, rather heavily in the N.W. At 8 a.m. of Tuesday ·36 inch of rain was registered at Malin Head and ·57 inch at Belmullet. Even in Dublin some slight showers occurred on Tuesday, both morning and evening; the measurement, however, was only ·015 inch. The anticyclone then began to develop again, and a spell of easterly winds set in. Sea fog accompanied the easterly current on Wednesday morning, but much bright sunshine was enjoyed daily until the end of the week, Friday being an especially genial day. On that day the thermometer rose to 70° in the shade at Parsonstown and Donaghadee and to 71° at Belmullet. In Dublin the mean atmospheric pressure was 30·369 inches, the barometer ranging from 30·489 inches, at 9 p.m. of Sunday (wind, S.E.), to 30·207 inches, at 9 p.m. of Saturday (wind, E.). The corrected mean temperature was 52·4°. The mean dry bulb value at 9 a.m. and 9 p.m. was 52·5°. On Sunday the thermometers in the screen fell to 37·6°, on Friday they rose to 64·5°. Easterly winds prevailed. The rainfall was ·015 inch on two days, ·008 inch being measured on Monday.

Throughout the week ended Saturday, the 16th, Ireland lay well within the central area of an anticyclone, so that the barometer readings were high and uniform, and the weather was fine and quiet. Winds from polar quarters predominated, but owing to the prevalence of bright sunshine, temperature rose even by night, and was very high on several occasions during the daytime. From Dublin not a cloud was to be seen in the sky until Tuesday afternoon. On Wednesday, however, a good deal of cirrus came up from N.W., producing a solar halo. There was also on this day some turreted cumulus, which is a very electrical cloud-formation. The last three days were rather cloudy, especially in the mornings, and a slight shower fell on Friday at an early hour. On Saturday, also, a few drops of rain fell at 9.15 a.m. While the weather was thus exceptionally fine in Ireland, less fair conditions prevailed in Scotland and also for a time in England. This was brought about by the passage of several depressions across Scandinavia in a south-easterly direction. On Tuesday the shade thermometers rose to 80° at York and Loughborough, to 77° in London and at Parsonstown and Oxford, and to 76° at Cambridge. Thunder and lightning followed very generally in the N.E. and E. of England, but scarcely any rain fell. In Dublin the mean height of the barometer was 30·305 inches, pressure ranging from 30·444 inches at 9 a.m. of Tuesday (wind, E.), to 30·160 inches at 9 p.m. of Thursday (wind, N.W.). The corrected mean temperature was 57·8°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 57·9°. On Monday the screened thermometers fell to 45·8°, on Wednesday they rose to 71·2°. The rainfall was a mere trace—·002 inch on Thursday. The prevalent winds were E. and N.W.

Although not unfavourable, the weather for the week ended Saturday, the 23rd, was much less settled than that of past weeks, and grateful rain fell in frequent showers, abundantly in some parts of the kingdom, more sparingly in others. Speaking generally, the barometer stood high off the S.W. of Ireland, where an anticyclone held its position almost throughout, while a number of depressions formed over the Norwegian Sea, the southern half of Scandinavia and the North Sea, with a general tendency to drift south-eastwards to Central Europe. Hence N.W. winds prevailed in the British Isles, increasing in force to a moderate and, at exposed stations, a strong gale on Wednesday. Temperature also gave way considerably after Monday, when the thermometer in the shade rose to 77° in London, 76° at Loughborough, 75° at Cambridge, and 69° in Dublin. On Wednesday night it fell to 34° at York, 35° at Parsonstown, 36° at Wick, Loughborough, Oxford, and Cambridge, 38° in London, and 40° in Dublin—the grass minimum at Loughborough was 28°. This chill had been preceded by thunder, lightning, and hail showers on Wednesday in several parts of England. Rain began to fall freely on Thursday, and the air, which had been dry and searching, became moist, soft, and warm. Fresh westerly to northerly winds continued to the close of the week. In Dublin the mean height of the barometer was 30·162 inches, pressure ranging between 30·335 inches at 9 p.m. of Saturday (wind, N.W.) and 29·991 inches at 9 a.m. of Friday (wind, N.W.). The corrected mean temperature was 55·4°, the mean dry bulb reading at 9 a.m. and 9 p.m. being also 55·4°. On Monday the screened thermometers rose to 69·2°, on Thursday they fell to 40·3°. The rainfall was ·173 inch on five days, ·080 inch being registered on Monday, on the afternoon of which day slight thunder and lightning occurred over the south-eastern suburbs of Dublin. The prevalent wind was N.W.

Anticyclonic conditions ruled in Ireland throughout the week ended Saturday, the 30th, and the weather was very dry and fine, with continuous polar winds. At first the nights were cold, but as the week advanced a freshening breeze checked the nocturnal fall of temperature. By day the sun had great power, and on Friday, notwithstanding a fresh northerly wind, a shade maximum of 71·8° was recorded. The barometer stood at 30·5 inches or upwards over a great part of Ireland until Tuesday afternoon, when a somewhat decided fall in pressure spread northwards from France, threatening to break up the fine weather. A recovery, however, soon followed. This in turn was succeeded by a brisk fall of the barometer in Scandinavia, so that by Friday morning the centre of a well-marked depression had advanced from the N.W. to the neighbourhood of Stockholm. This disturbance brought steady rain to Norway, Sweden, and Denmark, showers to Scotland and to exposed places in the N.E. and E. of England, clouds and squally northerly winds to all parts of the British Islands. In Ireland (except in the extreme North) the weather remained rainless to the close of the week. Saturday broke overcast and cool, but the clouds soon dispersed and the afternoon was brilliant. Thunderstorms occurred on the Continent on and after Tuesday, and a terrific tornado devastated the city of St. Louis, Missouri, on Wednesday afternoon. In Dublin the mean height of the barometer was 30·398 inches—highest, 30·558 inches at 9 a.m. of Monday (wind, E.N.E.); lowest, 30·181 inches at 1 p.m. of Friday (wind, N.). The corrected mean temperature was 56·0°, the mean dry bulb reading at 9 a.m. and 9 p.m. was 55·7°. The screened thermometers fell to 43·2° on Sunday, and rose to 71·8° on Friday. The prevalent wind was N.E. No rain fell.

Sunday, the 31st, was brilliantly fine.

The rainfall in Dublin during the five months ending May 31st amounted to only 5·971 inches on 70 days, compared with 10·410 inches on 68 days in 1895, 12·709 inches on 90 days in 1894, 7·908 inches on 66 days in 1893, 10·099 inches on 80 days in 1892, only 5·995 inches on 63 days in 1891, 11·483 inches on 76 days in 1890, 10·476 inches on 91 days in 1889, 9·068 inches on 69 days in 1888, 6·489 inches on 62 days in 1887, and a twenty-five years' average of 10·496 inches on 81·6 days. The deficit so far in 1896 slightly exceeds 43 per cent.

At Knockdolian, Greystones, Co. Wicklow, the rainfall was 0·030 inch, distributed over only 2 days—·015 inch falling on the 18th and the same quantity on the 19th. The total fall since January 1st, 1896, equals 5·716 inches on 52 days, compared with 12·845 inches on 58 days in 1895, 15·696 inches on 85 days in 1894, and 9·565 inches on 65 days in 1893.

The rainfall at Cloneevin, Killiney, Co. Dublin, was 0·060 inch on 2 days—0·03 inch falling on both the 18th and 19th. At this station the average rainfall in May in the ten years, 1885–1894, was 2·456 inches on 15·2 days. May, 1895, was a very dry month, only 0·12 inch falling on 3 days, but the past month "beats the record." Since January 1, 1896, 5·33 inches of rain have fallen on 57 days at Cloneevin.

A more plentiful rainfall was recorded west and north of the city. The measurement at the Ordnance Survey Office, Phœnix Park, was ·400 inch on 9 days; that at the Royal Botanic Gardens, Glasnevin, was ·330 inch on 6 days.

ETHER *v.* CHLOROFORM.

Il Policlinico concludes an article "On the Action of Ether on the Kidneys," with a declaration of its decided preference for ether as an anæsthetic. Although renal disturbances are more frequent after its use than after chloroform, it does not induce the serious degenerative lesions which are apt to follow the latter. Ether leaves the operator's mind more free than chloroform from anxiety as to the condition of the kidneys after an operation.

PLAGUE.

THE *Gazette Médicale de Paris* summarises a paper on the plague, read by M. Mahé before the *Académie de Médecine.* The author estimates the mortality from plague, in the last forty years, at 300,000. The death-rate is not diminished in successive epidemics. The average mortality is 50 per cent., but the rate has been known to reach 96. "The plague bacillus is known, through M. Nersin's descriptions. It inhabits the soil, developing with difficulty in water. This fact explains why the floating populations in China, living in boats, generally escape plague."

APPENDICITIS.

THERE are signs of reaction against the surgical treatment of real or imagined appendicitis. The appendix vermiformis is, it may be confessed, neither useful nor ornamental; but there is something uncanny in the thought that, as things were going, every second man, woman, and child one should meet in the street had had his (or her) appendix removed, like a lamb's tail. In the *Medical Record* Dr. W. N. M'Artney publishes a paper on "Appendicitis from the Medical Standpoint." He had treated twenty-four consecutive cases successfully with opium. "In recurrent appendicitis," he says, "I have usually advised operation, but I have noticed that the recurrent cases have usually been mild. Where there has been a severe and prolonged attack it has never in my experience been followed by a second attack."

PERISCOPE.

INTERNATIONAL LANGUAGE.

In a letter written shortly before his death to Dr. Jankau, Professor Billroth expressed himself as follows upon the choice of an international language: "I would recommend the most simple of the Romance languages, that is Spanish, as a common speech for the learned; after that would come Italian and French, and among the Germanic tongues, English only. The latter would be by far the most suitable of all, for it is also one of the simplest. But as the Latin races are so absolutely without the talent for learning foreign languages it is necessary, because of their other great attainments in the line of culture and science, to make a concession to them in this regard, and select a Romance tongue as the international language."—*Medical Record.*

DELUSIONS AND SANITY.

An important decision was recently given in the Supreme Court of Tennessee, in a case of murder, in which a plea of insanity was set up. The court held "that in criminal cases the correct issue is not that of sanity, but of responsibility. The delusions of a sane man do not make him irresponsible. The question is in such cases, is the delusion set up as a defence the delusion of an insane person? Many men of strong minds, continues the court, have delusions. Remarkable instances are given in the works on medical jurisprudence of delusions in men of prominence in all the walks of life. Lord Kenyon had an unreasoning fear of poverty, and so had Lord Stowell, although he was a man of immense fortune, his home being absolutely destitute of the necessities and comforts of life. Lord Erskine would never sit at a table or remain in a company as one of thirteen persons. Lord Eldon, after he had made up his mind and expressed his opinion lucidly and conclusively, was at all times a prey to grave doubts of his correctness. Lord Brougham, upon more than one occasion, was placed in seclusion, his mind being clearly off balance. Judge Breckenridge, of Pennsylvania, is reported to have on a hot day, while holding court at Sunbury, gradually taken off his clothes, until he sat naked on the bench. Judge Baldwin, of the United States Supreme Court, was a hypochondriac. A distinguished New England judge imagined that a dropsical affection under which he laboured was a sort of pregnancy. And yet none of these men were insane, because they had reason and sanity enough to conquer and overcome these delusions. A familiar illustration is that of the Mormon elders, who claimed that they had a direct revelation from heaven permitting them to practice and teach polygamy. The world generally regards this as a rank heresy, and the claim to be the evidence of an unreasonable delusion. It has, however, been held that they can not defend on the ground of such delusion, inasmuch as otherwise they are sane, shrewd, active, successful, and unusually practical men in their business and social relations, and they have been held responsible for such delusions. Nor can it be said that the jealous suspicions which so many men entertain without any foundation can be magnified into insane delusions, which will exempt them from punishment for crimes originating in such jealousy. In a sense, all unfounded suspicions are delusions, but they do not for that reason excuse crime"—*Journal American Medical Association.*

ABUSE OF HOSPITALS.

We have received a little tract by Dr. W. Knowsley Sibley on this subject of great and growing importance. He entitles it "State-Aided *v.* Voluntary Hospitals." He shows that the "State system exists, with the exception of our own country, practically throughout the civilised world;" and he demonstrates with great force the disadvantages and gross abuses of the English system. With these we have long been familiar. It is enough to state that *one quarter* of the population of the great towns in England receives, annually, *in formâ pauperis*, gratuitous medical relief.

CHLOROFORMISATION.

From a number of experiments on dogs, Dr. Evenchoff (*Wratsch*) strongly recommends hypodermic injections of strychnin when the blood pressure falls during chloroformisation. He opened the trachea of sixteen dogs, and having chloroformed them watched until the blood pressure fell to zero, then he gave a hypodermic injection of strychnin, removed the chloroform vapour, and found that the blood pressure quickly reached the normal. He recommenced the administration of the chloroform vapour and found that after the injection of the strychnin the dog required a much larger amount of chloroform to lower the blood pressure.—*La Presse Médicale.*

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

Tabloids prepared from Animal Substances.

MESSRS. BURROUGHS, WELLCOME & Co., Snow Hill Buildings, London, E.C., have submitted to us a number of "tabloids" prepared from medicinal animal substances. Animal remedies have been used from the earliest historical periods. They bulk largely in Egyptian, Grecian and Roman systems of medicine, and, descending to modern times, we find that digestive ferments were employed for indigestion and other abdominal troubles long before the days of Corvisart and Dr. George Harley. Later still, animal substances have come to be employed for the same purposes as those for which the ancients used them, for their power of modifying tissue change and reproducing defective function, or of supplying vicariously definite principles, the absence of which in corresponding organs of the living body is the cause of certain forms of disease.

Although the ultimate chemistry of animal enzymes is still in a most incomplete state, it has already been definitely ascertained that liquid extracts must and do, from many causes chemical and bacteriological, vary considerably in their activity, and Professor Schäfer attributes to the inconsistency of *extracts* the failure of many important investigations. Animal substance "tabloids," on the contrary, contain the whole of the substance, and all the active principles of the carefully selected organs from which they are prepared, and may thus be presumed to ensure still further activity, uniformity of effect, and perfect preservability. By their means the physician is enabled to regulate the dose with the utmost convenience and certainty.

The recent additions to the long list of tabloids which have been prepared by Messrs. Burroughs, Wellcome and Company, have been suggested in every case by leading clinical investigators.

Salivary Gland "Tabloids."—Although published experimental records are wanting regarding the action of the various salivary glands as internal secretors, their structure undoubtedly affords evidence of other functions than that of producing the amylolytic ferment, and of preparing the food for gastric digestion. They are being tried by clinical investigators in amylaceous dyspepsia, and for their vicarious action when the salivary glands have been removed by operation. They are supplied in bottles containing 100 5-grain "tabloids."

Pineal Gland "Tabloids."—The function of the pineal gland has been, and still is, the subject of controversy. Its removal in animals has caused profound alterations in the central nervous system. "Tabloids" of the substances of the gland act as a stimulant to the great cerebral centres, and have a specific therapeutic effect on the grey matter of the cerebellum and cerebrum. They are prescribed in cases of organic and functional disease of the brain with failure of nutrition. Among these may be mentioned mania, dementia, and cerebral softening. They are supplied in bottles containing 100 1-grain "tabloids."

Nuclein "Tabloids."—According to Huber, the subcutaneous injection of this phosphorised proteid body increases the number of white corpuscles in both healthy and tuberculous subjects. The investigations of Kossel and Tichimoroff prove conclusively that nuclein has an antagonistic effect upon toxins and toxalbumins, both classes of bodies being precipitated from solutions by active nuclein. Nuclein "Tabloids" have already been tried with favourable results in chronic rheumatism, neurasthenia, nervous prostration, chronic catarrhal bronchitis, and suppurative tonsillitis. They are supplied in bottles containing 100 1-grain "tabloids."

Kidney Substance "Tabloids."—No doubt exists of the internal *secreting* function of the kidney, and many investigators have considered that this part of its function is of equal importance with its work of excretion. It performs a very important rôle in metabolic processes, and the failure of the supply of its internal secretion speedily leads to disorganisation of the nitrogenous metabolism, and is followed by wasting and death. Kidney Substance "Tabloids" contain the active principle which is poured into the blood, and are indicated in those diseases which arise from failure of this function of the renal gland. They are supplied in bottles containing 100 5-grain "tabloids."

Cervical Lymphatic Gland "Tabloids."—These tabloids are administered in glandular troubles, which have their origin not in a diathesis, but in local disease. Its action is probably due to the presence in the "tabloid" of the active enzyme secreted by the living gland. They are employed by physicians in cases of lymphadenoma or Hodgkins' disease, and exophthalmic goitre or Graves's disease, and in glandular swellings of various kinds. They are supplied in bottles containing 100 2½-grain "tabloids."

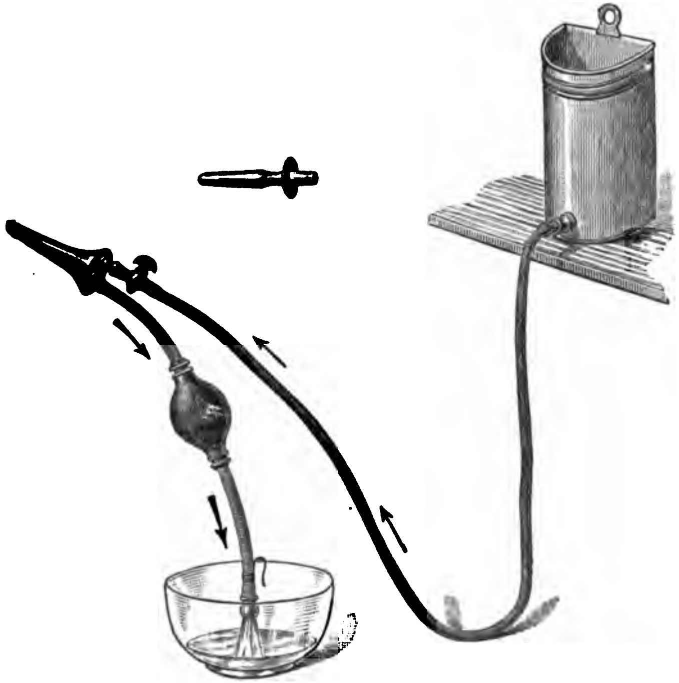
Fallopian Tube "Tabloids."—The substance of the Fallopian tubes is said to contain certain enzymes of importance in organo-therapeutics, and seems to be especially effective in hysteria and allied neurotic disorders. They are supplied in bottles containing 100 5-grain "tabloids."

Liver "Tabloids."—The substance of this organ is being used therapeutically for the sake of those products which it returns to the blood. After being manipulated by a special process and compressed into tabloids" it is employed as an anti-dysenteric, antilithic, and even as a febrifuge, and also in diabetes, uræmia, and other derangements of the hepatic functions. These "tabloids" are supplied in bottles containing 100 5-grain "tabloids."

Spinal Cord "Tabloids."—These "tabloids" contain myelin and other nerve phosphates, the active therapeutic principles of the spinal cord. They are at present under trial in hospitals and lunatic aslyums in diseases of the cortical portion of the brain and spinal marrow, and promise to be of some considerable therapeutic importance. They are supplied in bottles containing 100 2½-grain "tabloids."

The "Onah" Douche.

We have received from the patentees, Messrs. J. G. Ingram and Son, of London, one of their ingenious vaginal douches, medium size, to which they have given the fancy name "Onah." The principle of the instrument is shown in the annexed illustration.



The apparatus consists of a can of bronzed metal, made in three sizes—large, holding 2 quarts; medium, 3 pints; small, 1 pint. White enamelled metal or glass may be substituted for bronzed metal, if so ordered. The can, filled with the disinfecting or other fluid, is placed at a moderate elevation above the patient's body. The fluid is carried through a long affluent supply tube of best black enamelled rubber, partly by the force of gravity, partly by suction, as afterwards explained, to the nozzle, the base of which plugs the mouth of the vagina, while shielding and insulating the sensitive parts from a hot injection. The vaginal nozzle, valves, unions, and stopcocks are all made of durable polished vulcanite. When the parts have been flushed, the used fluid returns through a separate outflow or discharge tube, furnished with a bulb and valves. When the bulb is first compressed, and then allowed to expand, it exerts a suction action, which not only withdraws the used fluid from the vagina, but also induces a current of clean fluid from the can, as above mentioned. This apparatus can be used when the patient is lying in bed, without wetting the bedclothes. To use the apparatus, hook the outflow or discharge tube on to a chamber or other waste vessel, insert the nozzle in the vagina, turn on the stopcock, and "operate" the bulb. If the vulcanite unions at the bulb are taken apart, be sure to replace the valves. The vaginal nozzle can be readily detached from its socket, into which a bone rectal pipe fits for administering enemata. The "Onah" douches are supplied complete, in strong and handsome boxes, and may be obtained through any chemist or surgical instrument maker, or from the London India Rubber Works, Hackney Wick, London, E.

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OF
MEDICAL SCIENCE.

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THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

AUGUST 1, 1896.

PART I.

ORIGINAL COMMUNICATIONS.

ART. IV.—*An Outbreak of Enteric Fever, probably due to Infected Milk.* By SIR CHARLES A. CAMERON, Professor of Hygiene, R.C.S.I.; Chief Medical Officer of Health, Dublin.

IN the DUBLIN JOURNAL OF MEDICAL SCIENCE for July, 1879, I have recorded an outbreak of enteric fever which I traced, with the utmost certainty, to the use of milk from a dairy in which there were cases of enteric fever. There were 63 cases, of which 6 terminated fatally. I have now to record another but much smaller distribution of enteric fever poison through the medium of infected milk. On learning that several persons, suffering from enteric fever, had been using milk supplied from a certain dairy situated in Meath-street, Dublin, I proceeded to the dairy and found two little girls lying ill in the same bed. One was nearly convalescent, but the other was still very ill. Having satisfied myself that both were affected with enteric fever, I had them at once removed from the dairy and the milk on the premises destroyed.

The dairy was a small establishment, and the milk dispensed from it was chiefly sold in the shop to a poor class of customers. Very little of the milk was sent out to customers. I made very careful inquiries, which resulted in the discovery that 14 persons suffering from enteric fever had all been supplied with milk from the Meath-street dairy since the two children in the latter had sickened. These 14 cases were all undoubtedly enteric, and some of them were very severe, though as yet (July 13th, 1896) none have terminated fatally.

The cows belonging to the dairy were out at grass, and their milk was brought into the dairy. How did it become infected there? The water used in the dairy was derived from the city supply, and was taken direct from a high-pressure main. There was no cistern in the premises, as the supply of water was not an intermittent one. If water was put into the milk, there is the strongest reason to believe that the former contained no infective matter. The dairy was located in a four-storied house, and the sick children were nursed in the third story. There was therefore a flat intervening between the dairy on the ground floor and the sick room. The dairy proper consisted of a shop, at the back of which there was a very small apartment, behind which a parlour was situated. At the rere of the house there is an area 18½ feet by 6½ feet. In it there is a hopper w.c. distant 2½ feet from the wall of the house and 17 feet from the door of the parlour. Milk is kept in the shop and small room behind it, and the meals of the family are served in the parlour. A door opens from the parlour into a hall, which is 2½ feet in width between the banisters and parlour door. The bedroom slops are carried down a narrow flight of stairs into the hall and past the parlour door, and thence into the back area. In the latter there is a dust bin as well as a w.c. It seems probable that in carrying down the dejecta of the children from the bedroom to the w.c. or dust bin the emanations from the dejecta passed into the shop or inner room through the parlour, and were absorbed by the milk contained in open vessels. It is possible, of course, that the person attending on the children may have brought infection into the dairy, but she seems to have taken no part in the selling or manipulating of the milk. She was not a professional nurse, but merely a friend of the family. The mother of the children was dead.

Milk exposed to an atmosphere tainted with emanations from decomposing organic matter is pretty sure to become contaminated. In milk, too, the typhoid bacillus (or its spores, if such exist, as seems not improbable) finds a congenial place in which to germinate. I placed the dejections of an enteric fever patient in an open vessel beside another open vessel containing milk, and covered all over with a very large bell jar. After 15 minutes' exposure I removed the milk and made a cultivation of it for the purpose of determining the presence of the typhoid bacilli. I found them in great numbers.

It remains only to add that the proprietor of the dairy was prosecuted for neglecting to notify cases of infectious disease in his premises. He was mulcted in the very moderate fine of £1.

ART. V.—*A Case of Syringomyelia.*[a] By M. M'HUGH, M.A., M.B.

BEFORE proceeding to an account of the clinical features of the case which I have the honour to bring under the notice of the Academy, it may be convenient that I should make a few introductory and explanatory remarks respecting the disease of which the patient will be found, I think, to furnish a remarkable example.

The term syringomyelia was first used a little more than fifty years ago to designate a condition attended with the formation of central cavities, distended with fluid, in the spinal cord. These excavations having been found to be mostly of a tubular character, the view was advanced by Virchow and Leyden that they were due, and always due, to dilatation of the central canal. They therefore proposed to term hydromyelia as more suitable to the pathological condition, and preferable to the one originally introduced. That Virchow's view was, in the main, erroneous was, however, very soon demonstrated. In most of the cases examined it became apparent that the hollowing of the cord took place independently of the central canal, which was frequently found to be occluded. The cavities were generally destitute of an epithelial lining, but were almost always surrounded by a quantity of neoplastic tissue of the nature of glioma, and it was evident that they were, in fact, produced by a liquefactive or cystic degeneration of this newly-formed gliomatous tissue. Occasionally, no doubt, the central canal became involved, but only as a secondary result, and by extension of the process of growth and excavation into it.

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[a] Read before the Section of Medicine of the Royal Academy of Medicine in Ireland, on Friday, December 13, 1895. [For discussion on this paper, see Vol. CI., page 463.]

This origin of the disease as a gliomatosis having been demonstrated by Simon in 1874, and confirmed by numerous other observers, the terms syringomyelia and hydromyelia were differentiated in their application. Virchow's term hydromyelia has been retained to describe simple dilatation of the central canal, whilst the term syringomyelia has been reserved for those special forms of cyst resulting from the softening of newly-formed gliomatous tissue.

The distinction, however, is of little practical value. The usual condition is a gliomatosis accompanied by syringomyelia occupying chiefly the cervical and upper dorsal regions. This gliomatosis depends upon a proliferation of a portion of the embryonic neurogliar tissue remaining over in that portion of the cord in which the medullary folds of the embryo close over to form the central canal, in that portion which is therefore developmentally the weakest—that is to say, the posterior part of the gray commissure and its immediate vicinity.

Gowers, in his book on diseases of the spinal cord, lays particular emphasis on the invariable congenital origin of the disease. This is, no doubt, in the main correct. Nevertheless, it would seem desirable to distinguish those cases in which there is a persistence of the embryonic tube, associated with arrested development of the cord—in other words, in which the cavity is congenital—from the more important group of cases in which the only developmental defect consists in the persistence of embryonic tissue which may, at a comparatively late period in life, undergo proliferation and produce gliomatosis. In the first group the deficiency in the cord is often accompanied by other developmental defects, such as encephalocele and absence of the cerebellum, and the subjects of it die very young.

In the second group of cases of true syringomyelia the first manifestations of the disease occur commonly in the adult. A large majority of the cases begin after the twentieth year, and many of them have arisen in persons over forty years of age.

As we have seen, the true anatomical character of the disease was recognised as early as 1874. Clinical observations were, however, at this time very much behindhand. Even in 1878, Erb, writing in Ziemssen's Encyclopædia, states that "all experience thus far teaches that the development of cavities as such produces no sort of symptoms by which it could be recognised during life," and also "it appears that we are at present possessed of no means to establish the diagnosis of syringomyelia during life."

Numerous cases of the disease were subsequently recorded in which a diagnosis of progressive muscular atrophy or of amyotrophic lateral sclerosis was made during life, and in which the true nature of the disease was only revealed on *post-mortem* examination. Schultze seems to have been the first to point to certain characteristic symptoms as diagnostic of the disease, and it is largely to his labours and writings, from 1886 to 1888, that our present clinical knowledge of the affection can be traced.

During the last six or seven years clinical observations have been rapidly accumulating, and one can hardly open a volume of transactions or of one of the medical journals without finding typical cases recorded. The first case of the kind shown in Ireland, I believe, was exhibited in the Academy in 1893 by Drs. Coleman and O'Carroll; and their paper forms an exceedingly interesting contribution to the literature of the subject.

At first sight it might seem that the formation of cavities in the cord should lead to such a diversity of symptoms as to make an accurate diagnosis impossible. The tendency of the disease, however, to begin in the gray matter immediately behind the central canal and to extend laterally, principally into the posterior cornua, tends to produce more uniformity in the clinical manifestations than might have been expected. And our knowledge of these has now been so far perfected that we can infer the existence of syringomyelia from a patient's symptoms with almost the same facility and accuracy as posterior sclerosis of the cord in a case of locomotor ataxy.

Charcot has divided the symptoms of the disease into two classes. Intrinsic symptoms, or those more immediately related to the central lesion in the gray matter, and extrinsic, or those resulting from secondary degenerations in the white matter. Amongst the former the most striking and characteristic is what he has termed sensory dissociation—that is to say, anæsthesia for painful and thermic impressions, with retention of tactile sensibility and of the muscular sense. Remarkable trophic lesions also occur, well illustrated by the case now exhibited. Extensive muscular atrophy of the Aran-Duchenne type is also commonly seen, and as the disease usually begins in the cervical region of the cord, there is often a considerable resemblance as regards this symptom to Cruveilhier's paralysis.

The extrinsic symptoms most commonly met with are spastic, due to degeneration of the pyramidal tracts. More rarely the phenomena are ataxic. A very peculiar feature found in one half of the cases is lateral curvature of the spine.

Vaso-motor disturbances, areas of complete anæsthesia, or hyperæsthesia, and irregularity of the pupils have occasionally been noticed.

If the lesion should extend into the lumbar enlargement, the case may be complicated by visceral lesions, such as cystitis, interference with the sphincters, &c., whilst an extension upwards may produce bulbar paralysis.

Case.—The patient, R. B., is a native of the County Mayo; by occupation a farmer, and twenty-five years of age. His family history presents no noteworthy feature, and up to his twentieth year his health seems to have been good, his only illness having been an attack of measles, which was followed by a delicacy of the respiratory organs. Between four and five years ago, however, he met with a serious accident, which consisted in a bad fall from a horse. His foot caught in the stirrup and he was dragged for a considerable distance along the ground. When picked up by his friends he was unconscious. He quickly recovered, however, from the more immediate effects of his fall, but soon afterwards noticed that his back was getting weak, and that he was not able to lift weights or to carry sacks on his shoulder as well as before. This weakness gradually increased, and about a year after the accident he began to experience pains, sometimes very acute, in his bones and joints. These were particularly noticeable in his hip-joints, and he attributes his difficulty of gait to stiffness of these joints. As time passed these pains disappeared, and the peculiar changes in his fingers (painless whitlows) became noticeable. The patient attributed them to injuries received while at work, but he observed that they showed no tendency to heal, and he therefore consulted a doctor about them. They caused him little or no pain, and he also found at this time that he could bear pain much better than other people.

I am indebted to Dr. Costello, of Ballindine, who sent me the patient in January last as an interesting clinical case, for the opportunity of examining and exhibiting him. His symptoms on admission to hospital in January were very similar to those present now, and may be briefly described as follows:—

The patient's hands exhibit trophic lesions of a symmetrical character, the terminal phalanx of the middle finger, with the soft parts, having been completely lost on the right side and very nearly so on the left, whilst many of the fingers present scars not unlike those seen in Raynaud's disease. The nails, where not partially or completely destroyed, present transverse grooving, and the skin of the palmar surface of the fingers is marked by deep fissures, principally at the junction with the palm. Many of the phalanges present remarkable thickening, suggestive at first sight of acromegaly, and this is especially noticeable in the proximal phalanges of the middle finger of both hands. The interossei muscles show also considerable wasting. The mutilation of the digital extremities, combined with the hypertrophy of the phalanges and the wasting of the interosseous muscles gives to the hands a most peculiar and characteristic appearance.

The muscular wasting is not confined to the hands but is also marked in the deltoids and other scapular muscles and in the lower portions of the trapezii, especially on the left side. The muscles, however, respond to Faradic stimuli, though not as readily as in health. The vertebral column presents marked lateral curvature in the dorsi-lumbar region, the convexity being directed towards the right, and there is a compensatory curve in the cervical region. On examining the lower extremities the knee-jerks are found to be greatly exaggerated, whilst ankle clonus and rectus clonus can be readily evoked on both sides. Muscular rigidity is not demonstrable, and the gait is not very characteristic. The patient has difficulty in walking, but can cover a mile, he says, in half an hour.

The cutaneous sensibility presents very remarkable alterations, showing typical sensory dissociation. In the hands, as elsewhere, tactile sensation is unimpaired, but when needles are driven through the skin, or when it is blistered with hot wires, no pain is experienced by the patient, who has, in fact, frequently burned himself from having unconsciously touched hot objects. I may here mention that the whitlows which produced the loss of his finger tips were almost altogether painless. This analgesia, though best marked in the upper extremities, has been found to extend over a considerable area of the body, and is accompanied with loss of heat and cold sensations—at all events within certain limits. Owing to the inexact means at our disposal I have had some difficulty in the exact delimitation of the areas of combined analgesia and thermo-anæsthesia. Both are, however, widely and symmetrically distributed, extending from the occipital region downwards to the knee-joints. All forms of sensibility are present only in the skin of the face and in that below the knees. Touch sensibility is universally present, and there is no hyperæsthesia discoverable anywhere.

The patient's vision and speech are unaffected. His eyes have been carefully examined by Mr. Odevaine, who has failed to discover any deviation from the normal in them. There is also a complete absence of ataxic symptoms, of vaso-motor disturbances and of visceral lesions.

It will be thus seen that the patient exhibits, in a remarkable way, what I may describe as the five classical symptoms of the disease—viz.: sensory dissociation, painless whitlows, muscular atrophy, curvature of the spine, and spastic symptoms in the lower extremities, and a word or two of comment on some of them may not be out of place.

As regards the trophic lesions in the hands, I may remark that cases similar in this respect to the one exhibited have been observed by Morvan, of Brittany, in 1883, and described by him as Panaritium Analgicum, or the painless whitlow disease. Morvan attributed the lesions to peripheral neuritis, and in his cases there would seem to have been complete anæsthesia—*i.e.*, absence of sensibility to touch impressions, as well as to those of heat and pain. In two fatal cases, however, of Morvan's disease, cavities with gliomatosis were found in the cord at the autopsy, and with an advancing and more complete knowledge of the affection, it has now become the generally received opinion that Morvan's disease is really a type of syringomyelia in which the trophic lesions appear early and form a prominent symptom. It would therefore be correct to describe the case exhibited here as a case of syringomyelia, showing Morvan's symptom. As making the resemblance even more complete, I may mention that the peculiar thickening of the phalanges, suggesting at first sight acromegaly, has also been noticed in these cases. Charcot alludes to it, and has suggested the name cheiromegaly for it. Taken in connection with the fact that vasomotor disturbances causing blueness of the extremities have also been observed, it is conceivable that there may be some connecting link between the disease at present under discussion and Raynaud's disease.

By far the most constant symptom in syringomyelia is sensory dissociation. It is, in fact, so invariably present that it may almost be considered to be pathognomonic of the disease. No satisfactory hypothesis has, however, as yet been offered respecting it, and in the present state of our knowledge, or want of knowledge, of the course taken by the centripetal conducting paths in the spinal cord it would be premature to attempt any explanation. Although a complete decussation of the sensory fibres probably does take place in the central nervous system, it cannot be said with certainty where this decussation takes place, or whether it takes place in the cord or not. If it should be the case that the fibres conveying painful and thermic impressions decussate in the cord whilst the tactile fibres cross higher up, the explanation of the phenomenon may lie in the fact that the gliomatosis commonly arises in or close to the grey commissure—that is to say, close to the region of decussation. As Gowers observes, the usual association of analgesia with thermo-anæsthesia makes it probable that the paths traversed by the pain and heat forms of sensibility are contiguous in the cord, and he favours the view that these paths pass by the posterior commissure to the antero-lateral tract of the opposite side. At all events, however, although the question is still in a nebulous condition, it may be confidently expected that the pathology of syringomyelia has a great future before it, and that a careful study of the ascending degenerative lesions resulting from this disease, combined with accurate clinical records, will go far to complete our knowledge of the physiology of centripetal conduction in the spinal cord.

Muscular atrophy, principally in the upper extremities, is a prominent symptom, and is sometimes so extensively distributed that many cases have been in the first instance diagnosticated as amyotrophic lateral sclerosis, or progressive muscular atrophy, and this mistaken diagnosis was, I understand, made with respect to the case exhibited in the Academy two years ago by Drs. Coleman and O'Carroll before the patient came under their observation. The atrophy is, no doubt, due to degeneration of the anterior horns, produced either by pressure of the distended cavity, or by an extension of the gliomatosis into them, or possibly by interference with their blood supply. The muscles, as a rule, are responsive to Faradic stimuli, as in my case, though not so readily as in health. Occasionally, however, reaction of degeneration is met with. Fibrillation appears to be common.

The lateral deviation of the spine is a remarkable feature, and presents the rotation peculiar to true scoliosis. It must be accepted as a characteristic symptom. According to Brühl, who has published an exhaustive summary of the cases reported previous to 1890, it is present in one half of them. Its explanation is by no means obvious, and there is plenty of scope for speculation. The most plausible theory is that the muscular atrophy, combined with a particular habitual posture, is responsible for it. As far as I know, however, it is not present in progressive muscular atrophy or in amyotrophic lateral sclerosis, at all events, in early stages, and the question of its causation is therefore in need of further elucidation. Generally the deviation is towards the left side, and the case I have exhibited would seem to be exceptional, therefore, in having the convexity directed towards the right.

Contrasting the case exhibited with those heretofore described, one cannot but be struck with the remarkable symmetry shown, in the present instance, in the distribution of the symptoms—trophic, sensory, and spastic. If one can draw any inference from this symmetry as regards the character of the lesion in the cord, it would be, I should think, that there is a single cavity symmetrically and centrally placed with, perhaps, a lateral wing extending into each posterior cornu. As regards vertical extent, this cavity probably occupies a considerable portion of the cervical and upper dorsal regions.

In conclusion, it need scarcely be said that the prognosis is extremely grave. The disease is slowly progressive towards a fatal termination, either from hæmorrhage into the cavity, from some intercurrent visceral lesion, or possibly from the involvement of centres more directly concerned with organic life. There is also but little prospect of beneficial results from treatment. The French physicians have tried extension by the method of suspension, as in locomotor ataxy, and counter-irritation along the spine. A knowledge of the pathological condition, however, does not encourage one to persevere in the application of any of the remedial means at present at our disposal.

ART. VI.—*A Short Account of the Baths of Leuk.* By JAMES LITTLE, M.D. Edin.; M.D. Dubl. (*Honoris Causâ*); F. & Ex.-Pres., R.C.P.I.; President of the Royal Academy of Medicine in Ireland; Senior Physician to the Adelaide Hospital.

TOURISTS crossing the Gemmi, that most wonderful of Swiss passes, from Interlaken or Thun to the Rhone Valley, come to the bottom of the pass at the Baths of Leuk, and many of them are tempted to go in and look at the bathers in the curious piscines which constitute the specialty of Loëche-les-Bains, but for curative purposes the baths are little known to English people. I believe, however, that, at all events, next year they will attract no inconsiderable number of visitors; and even during the present season, which will continue until the middle of September, some in search of health would do well to select Loëche-les-Bains. The situation of the town is very peculiar: it is surrounded almost entirely by mountains; on one side rises the perpendicular wall of the Gemmi, with its bare and apparently inaccessible cliffs, while on the other stand pine-clad hills; the upper end of the valley is closed in by the junction of these, and even towards the Rhone the valley is shut in and the road to the town of Leuk creeps along the mountain side.

The springs which arise in the upper end of the valley are numerous, and vary in temperature from 102° to 124° F., and their principal mineral ingredients are the sulphates and carbonates of lime and magnesia. They are used exclusively for bathing, and for at least half a century, and probably for a longer period, the special feature which has distinguished the Baths of Leuk from other bathing establishments has been the mode in which the waters were used. Sometimes, as at other places, the invalids remain in their baths only fifteen or thirty minutes, but as a rule the bath lasts two or three hours, the bathers occupying themselves during their prolonged immersion reading and chatting. Some, indeed, take their bath in a private room, but the majority bathe in the piscines—large baths capable of accommodating fifteen or twenty persons. Each bather has a little table, which he pushes before him; on several of these, when I visited the baths early in the morning, lay a tray with bread, butter, and coffee, and the bathers seemed to be enjoying their breakfasts as thoroughly as if they were in their hotels.

During the past year, however, a new life has come upon the Baths of Leuk. A wealthy syndicate has taken up the place; M. Heller, who is a German gentleman, but who speaks French and English fluently, is the Director. He has brought to the development of Leuk a thorough knowledge of the requirements of such a place, and being familiar with the arrangements of the best German and French baths, has determined that nothing shall be wanting which capital and energy can supply to make Leuk one of the foremost European health-resorts.

There are numerous private bath-rooms for those who prefer, as no doubt most British visitors would, to have their baths alone. Douches have been put up, and a male and a female rubber from Aix-les-Bains have been engaged to introduce the Aix system of rubbing. There are several excellent hotels. I went to the hotel which was placed first in Baedeker, the Hotel des Alpes, and found the furniture and appointments new, the table good, and everything comfortable.

Dr. de la Harpe, who speaks English perfectly, very kindly took me over the place and showed me everything, and not only gave me the results of his experience as to the cases in which the waters of Leuk are useful, but very candidly warned me regarding the cases in which the climate and waters may prove injurious, especially cases of chronic heart disease. Forming a theoretical opinion as to the kind of cases in which British physicians might find the climate and baths of Leuk beneficial to their patients, I would place first functional disturbances of the nervous system, those cases seen in women, and sometimes also in men, which we are compelled to describe as neurotic or neurasthenic; secondly, chronic articular and muscular pains; and thirdly, chronic eczema and psoriasis. In uterine and ovarian diseases, such as are usually sent to Ems, I can also well understand that the prolonged baths may prove very beneficial.

The Baths of Leuk are easily reached from Lausanne, the trains from which stop at Loëche-la-Ville, where carriages can always be had to drive to the Baths.

ART. VII.—*Remarks on Rural Water Supplies in Ireland.*[a]

By D. EDGAR FLINN, D.P.H., F.R.C.S.I., M.R.C.P.I.; Examiner in State Medicine, Royal Colleges of Physicians and Surgeons' Conjoint Board; Examiner in Hygiene, Royal College of Surgeons and Apothecaries' Hall; ex-President, State Medicine Section, Royal Academy of Medicine in Ireland, &c.

IT has truly been said that, next to the food of a people, water is the most important requirement for every community; and an abundant supply of pure water is not only of primary importance from a sanitary point of view, but one of the greatest blessings of life; and, *per contra*, no more fertile source of disease exists than impure and contaminated water.

In Ireland the character of the water supply in a large percentage of small towns and villages is not what it ought to be, and this is in great measure due to the fact that the wells from which the supply is derived are nearly always situated within a congested and closely-inhabited area—in many villages wells are sunk in the very centre of a number of cottages, and often in positions that conduce to the contamination of the water. The sources of supply being of a shallow nature, and on a lower level than the surrounding habitations, the soil, in due course of time, becomes so saturated with impurities that it becomes impossible to prevent pollution. These surface wells are a constant source of danger, their method of construction being, as a general rule, of a primitive character, and very little precautionary measures being taken to prevent the soakage and infiltration of surface impurities. In dry weather these wells provide but a scanty supply, and no thought of storage during the rainy months of the year ever enters the mind of the village cottage-holder.

The fact that a large number of these wells, or water holes, as they might be more appropriately termed, are shallow, the depth is, as a rule, not sufficient to produce thorough oxidation of any organic impurities that have gained access to the water, and they are more or less always a source of anxiety; in gravelly and sandy soils, however, the power of oxidation is so great that the organic matters added to the water become very rapidly oxidised, and are thus rendered comparatively harmless; yet such waters are only of a second-rate quality, and are in general use in country towns and villages. There are many important towns in Ireland which derive their drinking-water supplies from shallow pump-wells, almost all of these wells being situated in thoroughfares surrounded by a dense population. It is quite evident that drinking-water taken from these sources cannot be altogether free of impurities, and must be always regarded with suspicion; it is, however, sometimes no easy matter to carry conviction to the minds of local Sanitary Authorities *that all public water supplies should take their source at a distance from, and not within, the boundaries of a thickly-inhabited area.*

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[a] Read before the Section of State Medicine in the Royal Academy of Medicine in Ireland, on Friday, April 17, 1896.

It is notorious that a large percentage of the wells in our country villages are sunk simply with the view of obtaining water, and of having it as *convenient* to hand as possible, no account apparently being ever taken of the site or the configuration and condition of the soil in the immediate locality whence the supply of water is to come from. The cesspools are also similarly constructed with *a view to convenience.* Now, provided the well furnishes an abundant supply of water, and the cesspool allows the liquid refuse to soak away (and thus seldom requires cleaning out), there is very little concern evinced as to what occurs or what is likely to occur unobserved beneath the surface of the ground. In course of time the well-water is discovered to have a bad taste or emits an unpleasant odour, and probably an analysis has been ordered owing to suspicious cases of illness having occurred in the immediate locality.[a] Thus it often happens that if there be a plentiful supply of water furnished by a village pump, it may be possible for offensive matters to be so diluted that no perceptible effect is produced for a considerable time, and in this way an epidemic of enteric fever or diarrhœa may insidiously get a foothold in a country district before its true cause is found out.

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[a] Vivian Poore, in his "Essays on Rural Hygiene," says that "cesspools must be written down as the most immoral of all insanitary subterfuges, and their construction should be absolutely disallowed;" and, further, he mentions that "surface wells in towns the soil of which is excrement sodden *are little better than cesspools.*"

Again, the majority of the dwellings in country villages inhabited by the peasant and labouring classes have hitherto been built without any regard to system, comfort, or regularity. They are usually low-roofed, with small and badly-ventilated rooms—in fact, the question of architecture never appears to have been considered. Slops and refuse of all kinds are thrown on the roadway in close proximity to the cottages, decaying animal and vegetable matter abound in profusion everywhere, the liquid manure heap (often within a few feet of the entrance door) and the pigstye complete the picture of the insanitary surroundings of the village resident. In the centre of some twenty or more of this class of cottage the village pump is situated. Can it be wondered at if pollution takes place, and that surface impurities of all kinds find their way into the water?

The selection of a site for a supply of water to a village is a subject of the highest importance, and deserves much more attention than is generally given to it. As the primary object is to obtain a supply of water as pure and as uncontaminated with surface impurities as possible, the *convenience* of the position should be a *very secondary* consideration. Lathom says that in selecting a site for a well it should be borne in mind that the underground water flows in a certain direction, towards its natural outlet, which can be generally ascertained by observing the formation of the surface of the surrounding country, a favourable site being always in the neighbourhood of a river; moreover, a well should always be sunk in such a position that the underground water should flow *from* the direction of the well towards the possible sources of pollution, and not, as often happens in this country, in the reverse direction—that is, from the sources of pollution towards the well. Anyone who is conversant with the average Irish village will have noted that the village pump is always placed in the most convenient, if not the best, position, and always in the centre of a congested area. No protection is ever afforded against surface percolation or provision made to insure the removal of surface drainage to a safe distance, the very machinery used to rise the water is of the most primitive description, and has the unfortunate propensity of being frequently out of repair.

What very frequently occurs when a well-water supply is sought for in a village has been thus accurately described:—A common practice is to sink two holes, one a little deeper than the other. Into the shallower of the two all the sewage of a number of houses is discharged. From the deeper hole, which has been sunk below the water-line of the porous stratum, the water for drinking and domestic purposes is pumped. Very frequently these two holes are situated within a very short distance of each other. In time the contents of the cesspool gradually soak through the surrounding soil, and find their way into the well close by. As the contents of the well are pumped out they are replenished from the surrounding mixture, and thus it is not to be wondered at if such a well does not become dry even in summer. Unfortunately the percolation of excrementitious liquids through a porous soil does not rapidly impair the taste or appearance of the water; and thus polluted water is consumed for a long period without a suspicion of its character until an outbreak of an epidemic nature rivets public attention, and the polluted condition of the water is revealed.[*]

It has been estimated that nearly 65 per cent. of wells in country villages are more or less contaminated with some form or other of offensive and noxious matter; and in nearly every instance, through the culpable negligence or carelessness of the inhabitants, the village pump becomes so fouled that the water supply it provides is a positive menace to the public health. This condition is more likely to be the case in low-lying districts, and where the source of the supply is derived from shallow or surface wells, or where the well is situated in the midst of a thickly-inhabited area.

The Rivers Pollution Commission found that out of 429 samples from different wells, 307 were unfit for drinking purposes. These wells were, for the most part, surface wells, at a very little depth below the level of the ground, and the water in them was frequently the drainage of adjacent cesspools and privies merely clarified by passing through a stratum of soil of greater or less thickness, and mixed with rain water that had also percolated through. This slight filtration had possibly removed any unpleasantness in smell or taste; and as these waters were bright and sparkling they were necessarily thought pure and wholesome, and were used accordingly.

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[*] Epidemics of enteric fever without number have occurred in recent years in Great Britain; and the cause of these outbreaks has, in a large number of instances, been directly traced to the drinking of water from polluted wells. During the outbreak of cholera in 1898 at Ashbourne, in Derbyshire, a polluted well was the cause of the cases that occurred there, recalling the historical outbreak of 1854 of cholera in London, due to the consumption of foul water from the Golden Square pump.

Many village pump-wells are suffered to remain in an unprotected and neglected condition; and it is much to be regretted that more care is not exercised by the Sanitary Authorities as to the manner in which the contracts for the supply of water are executed, as frequently (through inexperience or incompetence on the one hand, on the part of a contractor, and from the lack of skilled supervision on the other) the supply is often scanty and defective in nearly every particular.

Recently there appears to be a disposition on the part of local public bodies to initiate the more modern methods of obtaining pure water supplies, and it becomes more apparent now that this question of sanitary reform in Ireland is gradually, if but slowly, approaching to a period of certain solution.

Art. VII.—*The Medicine and Surgery of the Homeric Poems.* By John Knott, M.A., M.D., Ch.B., and Dip. Stat. Med. (Univ. Dubl.); M.R.C.P.I.; M.R.I.A.; Fellow of the Royal Academy of Medicine in Ireland; &c.

(Continued from page 24.)

Some of the classical writers formulated theories of a more directly divine origin of wine. Certain of them, for instance, expressed the belief that the original wine was derived from the blood of the Olympian gods—when wounded in battle with the rebellious giants. A Greek physician, Androcydes, who was also (very evidently) of a poetic turn of mind, once wrote to Alexander the Great a letter in which he begged the great conqueror to remember that every time that he drank wine he imbibed the pure blood of the earth; and requested that, even on that account, he would never abuse it.

Such ideas contrast curiously with those promulgated by the leaders of some of the early Christian *heretical* sects. The Severians, who recognised the prevalence of good and bad principles in the unseen influences which regulate human conduct and human destiny, believed that *wine* and *women* were the more especial products of the Evil One; as universal experience had gone to show that most of the serious ills of life were traceable to indulgence in wine and in lust. We are told by St. Epiphanius, who wrote against this sect, and against their followers, the Encratites, that the latter had persuaded themselves that wine was the *gall of the Devil!*

Homer's wonderful knowledge of human nature, and his powers of analysing and pourtraying character, are well displayed in the insulting address of Achilles to Agamemnon, which begins with the line that forms the first of the quotations at the head of this section. The poet combines, with the tendency to excessive indulgence in wine, the attributes of the impudence of a cur and the cowardice of a deer—the qualities which were most likely to accompany it.

Those who governed and those who taught the inhabitants of the ancient Greek commonwealths have left upon the roll of their most illustrious names a fair proportion whose owners gave practical proofs of their recognition of the value of the gifts which Bacchus had bestowed upon mankind. Their kings, their lawgivers, their philosophers, their physicians, their poets, their priests, and their warriors have, in many of the most prominent cases, given ample proof of their full appreciation of the value of the juice of the grape. Some of their temples were shared by Bacchus and Pallas—a notable indication of the national belief in the intimate connection between the use of wine and the inspiration of wisdom.

The well-known story of "I appeal from Philip drunk to Philip sober" is known to every classical school-boy, and forcibly illustrates the social practices of the high and mighty of the Grecian states at a time when the influence of this extraordinary centre of civilisation had nearly reached its acme. It is also well known that Alexander—the most uniformly triumphant of all the world's great conquerors—inherited his father's taste for after-dinner potations. His illustrious teacher, Aristotle, explains how it is that excess of drinking makes one "very improper for the acts of Venus," and discusses the reasons at some length. Athenæus, in referring to the drunkenness of Alexander the Great, adds that this vice was, perhaps, the cause of his comparatively slight susceptibility to the attractions of the fair sex. The incompatibility of the two forms of sensuality is noticed by Ovid, who is universally acknowledged to be one of the most reliable authorities on such questions:—

> Vina parant animum Veneri, nisi plurima sumas,
> Ut stupeant multo corda sepulta mero.

Among the rulers of rival contemporary nations we are told that the first Darius—one of the most important monarchs of the less moral and less virile kingdom of Persia—had the following epitaph placed (at his own desire) upon his tomb:—

> Vinum multum bibere potuit idque perferre.

His still more renowned successor, Cyrus, alleged that, among the various qualities which made him a more suitable candidate for the throne of a great monarchy than his brother Artaxerxes, he possessed the important faculty of being able to drink much more wine than the latter. The less heroic, and less prepossessing, Cambyses was more sottish, as well as more brutal in other passions. The demoniacal performance—a kind of moral antithesis to the famous achievement of Wilhelm Tell—in which he sacrificed the life of the son of a too candid courtier to his brutal revenge for the unflattering information volunteered by the father—is well known to every reader of apophthegms and historic tit-bits.

In the subsequent progress of the world's civilisation, the severer moral and political discipline of the Roman Commonwealth was far less favourable to indulgence in wine, even when the decline of the Empire had reached a rather advanced stage. It is, nevertheless, true that Trajan and Nerva—two of the most philanthropic of their emperors—acquired for themselves the reputation of very deep drinkers; and Septimius Severus died of drunkenness—having reached the climax of human ambition, and having, like Solomon, realised the vanity of it all. In interesting contrast with these facts is the morally antipodal action of the cruel Domitian, who forbad the plantation of vines and the castration of men. This specimen of summary legislation elicited from Philostratus the epigrammatic comment that—"This admirable Emperor did not reflect that he had made the earth a eunuch at the same time that he spared men." History, however, records that vines were not cultivated by the Romans till 600 years after the formation of the Republic: which is in itself a significant fact as a testimony to the value of wine. And in the days of Numa this beverage was so hard to procure, that one of the laws of the great legislator enacted that milk should be used for libations to the Gods.

There is no doubt that climatic influences have had a large share in the formation of national tastes and habits in the use and abuse of wine, as well as in the adoption of other forms of sensual indulgence. We are told that on one occasion an insolent Italian reproached a German with the habitual toping habits of his countrymen :—

Germani multos possunt tolerare labores :
O utinam possint tam laborare sitim !

To which insinuation the ready German made this extemporaneous reply :—

Ut nos vitis amor, sic vos Venus improba vexat :
Est data lex Veneri, Julia, nulla mero.

That the Germans rather prided themselves on this national distinction might be inferred from the speech recorded of an honest German of the olden time, who exclaimed in a fit of ecstasy over his empty bottle :—

O felices populi, quorum VIVERE *est* BIBERE !

How well the national reputation in this department was maintained down through the long centuries of the Dark Ages is forcibly illustrated by the specimen of proverbial doggerel cited by the author of the *Religio Medici* :—

Le mutin Anglois, & le bravache Ecossais ;
Le bougre Italian, & le fol Francois ;
Le poultron Romani, le larron de Gascongne ;
L'Espagnol superbe, & l'Aleman yurongne.

It has always been a matter of observation that venereal indulgence was characteristic of southern nations, while excesses in drinking were usual in northern climes. In this connection the illustrious Bayle observed:—"It cannot be denied that the Christians of Europe are subject to two great vices, Drunkenness and Lewdness. The first of these reigns in cold countries, the second in hot. *Bacchus* and *Venus* share these two climates between them. We find that the Reformation having divided this portion of Christianity, that part which was subject to *Venus* continues as it was, but the greatest part of what was subject to *Bacchus* has renounced Popery." The quaint and learned Montaigne remarks on the gradual substitution of one vice for the other in his own day:—"Il semble que touts les jours nous racourcissons l'usage de cettuy-cy: & qu'en nos maisons, comme j'ay veu en mon enfance, les desjeuners, les ressiners, et les collations fussent plus frequentes et ordinaires, qu'à present. Seroit-ce qu'en quelque chose nous allassions vers l'amendement? Vrayement non. Mais ce peut estre que nous nous sommes beaucoup plus jettez à la paillardise, que nos peres. Ce sont deux occupations, qui s'entr' empeschent en leur vigueur. Elle a affoibli notrê estomach d'une part: & d'autre part la sobrieté sert à nous rendre plus coints, plus damerets pour l'exercise de l'amour."

The instances above given of the royal rulers of Greece, are pronounced examples of the union of this form of sensuality with an engrossing ambition—with the desire to conquer, and the power to govern, men. And although some of the Grecian legislators made severe laws against the abuse of wine, they do not appear to have been executed with much vigour. One of the laws of the wise Solon punished with death an Athenian *Ἀρχων* who was convicted of drunkenness, but the author does not seem to have found this discharge of duty incompatible with the composition of a convivial song, in which he celebrates the enjoyments afforded by "Wine, Women, and the Muses," as the three great pleasures of life. The laws of Lycurgus against the abuse of wine were more severe than those of Solon: his countrymen's general practice would not, however, appear to have been much influenced by them. We read that the Thracian king of that name enacted some very high-handed laws in connection with this and other moral questions. One of those enforced the community of women; another the destruction of vineyards, and the rooting up of vines. For the latter innovation he received exemplary punishment at the hands of Bacchus, who, like most deities of the olden times, was very jealous of his influence with the sons of men.

Grecian philosophy, of the most exalted type, does not appear to have regarded occasional drunkenness as an indulgence in any way incompatible with the highest type of human virtue, of which its teachers made the loftiest and strictest professions. Of the divine Socrates, the martyred type of all subsequently unattainable human excellence, we read that at a grand symposium, where the drinker who displayed the greatest capacity was made the hero of the hour:—

> Hoc quoque virtutem quondam certamine magnum
> Socratem palmam promeruisse ferunt.
>
> —*Corn. Gall. Eleg.* I.

So that the wisest of the sons of Athens was sometimes solaced for a time for the domestic persecutions of his aggravating Xantippe; and by the euthanasia of the bowl, whose more potent contents afterwards for ever set him free from the effects of the malignant jealousy of his fellow-citizens.

The universal Aristotle, the rigid Zeno, and the divinely mystic Plato, all stand convicted of similar indulgence. Indeed the latter would not only favour, but command, the occasional excess in wine which he had found so beneficial to his own morals and intellect. Arcesilaus, Chrysippus, Stilpo, Theophrastus, and Xenocrates, are other names of philosophic renown, whose owners have borne testimony to the moral and intellectual advantages which may be acquired by a judicious indulgence in the gifts of Bacchus. A peculiar triumph of the latter is recorded in his victory over Phryne—the most fascinating and successful courtesan of her generation—who laid a very heavy wager with him that in fair combat she would be able to overcome his virtue. The philosopher freely accepted the challenge; and, having saturated himself with the juice of the vine, fearlessly engaged in the contest, at the end of which the hitherto triumphant fair one was obliged to confess her defeat. The wise philosopher acted on the practical principle familiar to readers of Ovid (already quoted), and of Shakespeare (Macbeth, II. 3), and came off in the luxurious atmosphere of a Grecian bedchamber as successful as ever did St. Anthony or St. Francis, in the more favourable environments of a howling wilderness and poultices of snow. Surveying this very important question from the point of view of a semi-inspired legislator and moral teacher, the divine Plato assures his readers that "Wine is a Medicine as well for the Body as the Mind, the driness of old People having great occasion for this kind of Moistening, and their severe Genius of the brisk Gaity inspired by Wine, without which they would not be able to perform their Part in the Concert, and consequently would be no longer useful Members in the Commonwealth, which is no other ways supported and preserved than by Harmony."

Of the opinions of the Fathers of my own profession, I may mention that of Hippocrates, the Patriarchal Prince of Physicians, who, prescribed getting drunk once a month as a generally beneficial and hygienic procedure. Among the great names of his successors who proved faithful disciples in this article of dietetic faith, we find that of Dioscorides, who, while compiling the most exhaustive of the ancient Encyclopædias of Therapeutics, had the peculiar privilege of acting as medical adviser to the Egyptian beauty at whose feet the conqueror of the world was delighted to kneel, and for whom a rival candidate willingly forfeited his chances of universal empire; of Avicenna, the famous Arabian physician and metaphysician, who was regarded as one of the brightest philosophic lights of his generation, in spite of the fact that he read over the metaphysics of Aristotle forty times without understanding a single sentence, and afterwards found a clue to the heart of its mystery merely by an accident—who soon after became himself a confirmed drunkard, and occupied the second half of his life in demonstrating the worthlessness of the learning to which he had devoted the first half; and of Rhazes, the "Arabian Galen," the "Phœnix of his Age," the "Experimenter," who has the honour of having been the first to place chemical preparations upon the list of the remedies of the Materia Medica.

Montaigne has placed on record the identically-expressed opinion of his illustrious friend, whose name is enshrined in the history of medicine:—" J'ay ouy dire à *Silvius*, excellent medecin de Paris, que pour garder que les forces de nostre estomac ne s'apparessent, il est bon une fois le mois, les esveiller par cet excez, & les piquer pour les garder de s'engourdir."

It is hardly necessary to point out that the monk-medicine-man, Rabelais, of phenomenal fame, owed a large proportion of his unique type of inspiration to his attention to the bottle; and always took care, when sitting down to prepare a portion of his immortal work—in his own favourite phrase—"humer le piot." The mystical and, indeed, very mysterious philosopher-charlatan, Paracelsus, followed the precept of the great Father of Medicine: only, as it appears, with greater frequency of application than the latter had enjoined. We are also informed that his disciples embraced the opportunities afforded by the occasions on which his free potations had made him relax the distantly rigid austerity of his deportment; and at such opportune seasons induced him to dictate the contents of those treatises of unutterable and non-understandable wisdom which have descended to posterity under his name. And the learned Boniface Oinophilus, one of the highest authorities on the use and abuse of wine, tells his readers: "If the Number of Physicians who used to get drunk, proves anything, I could insert a good round Catalogue, amongst whom I do not find any *English* Doctors, for they are the most abstemious persons in the World." I may add to this complimentary statement a note of the well-known fact that our Irish doctors by no means yield to their brethren of Great Britain in their status on the roll of temperance.

Of the further poetic testimonies which Grecian genius has given to the value of wine, I may mention that of the practice of Alcæus, to whom Suidas attributes the invention of Tragedy, and of whom we are told that he never sat down to write any portion of one of his dramas till he had succeeded in bringing himself well under the inspiration of his presiding Bacchus; and of Æschylus, whose devotion to this deity is believed to have been equally sincere and unflinching. And the theory of Aristophanes:—

Οἶνον σὺ τολμᾷς εἰς ἐπίνοιαν λοιδορεῖν.
Οἴνου γὰρ εὕροις ἄν τι πρακτικώτερον;

—*Equit.* 90-91.

And that of Euripides:—

Οἴνου δὲ μηκέτ' ὄντος οὐκ ἔστιν Κύπρις,
Οὐδ' ἄλλο τερπνὸν οὐδὲν ἀνθρώποις ἔτι.

—*Bacch.* 773-4.

The never-failing and almost undivided devotion of Anacreon to the presiding deity of wine need not be more than referred to. The famous wish of Philoxenus, who would have desired, above all things, to have the neck of a crane, so that the luxurious sensations of swallowing his meat and his drink might be as much as possible prolonged, has often been used to point a moral and adorn a tale. Some of the highest authorities on classical mythology believe that the inspiration of wine was the real Pegasus of the poets of old; and the learned Bayle testifies that—"There were never any Poets of great excellence who could versify till after drinking pretty copiously." The testimony of Horace on this head is highly corroborative, as well as highly characteristic:—

Nulla placere diu, nec vivere carmina possint,
Quæ scribuntur aquæ potoribus.

And the wailing of Ovid in the outer darkness of his exile is equally significant:—

Impetus ille sacer, qui vatum pectora nutrit
Qui prius in nobis esse solebat, abest.

With more reverential feelings the fact must be announced that the spiritual guardians of morals—the priests of the great religions of the world—have in but few instances been, as a body, deficient in practical testimony to the value of wine—some in private only, some in public, some in both. The feasts of Bacchus were among the celebrations which were carried out with the greatest energy, and accompanied by the greatest amount of popular applause. There was no lack of priests there, and no rites were more exhaustively carried out. The early Christians could appeal to the examples and teachings of Christ Himself and of the Apostle Paul, both of whom used wine in moderate quantity, while the self-righteous and uncharitable Pharisees were ranged on the side of teetotalism. And the fruits of their devotion to their great models are but too well shown by the testimony of St. Augustine:—"Drunken debauches pass as permitted amongst us, so that People turn them into solemn feasts, to honour the memory of the Martyrs; and that, not only on those days which are particularly consecrated to them (which would be a deplorable abuse to those who look at these things with other eyes than those of the Flesh), but on every day of the Year." And of St. Cyprian:—"Drunkenness is so common with us in Africa, that it scarce passes for a crime. And do we not see Christians forcing one another to get drunk to celebrate the memory of the Martyrs?" The former of these great saints was exceedingly liberal in his ruling on this important question—"I do not say that people should not get drunk in particular houses, but that they should not get drunk anywhere else." And the devotees of the "love-feasts" found an advocate and apologist for their practices in Paulinus, who cleverly advances the plea that they got drunk from a good intention:—

> ——' ignoscenda tamen puto talia parvis
> Gaudia quæ ducunt epulis, quia mentibus Error
> Irrepit rudibus, nec tantæ conscia culpæ
> Simplicitas pietate cadit, male credula sanctos
> Perfusis halante mero gaudere sepulchris.

And these habits may be traced down through the Dark Ages, when the phrase *Vinum theologale* became a proverbial appellation for wine of the highest excellence, and the agitation for religious reform drew forth such satirical effusions as—

O Monachi,	Vos estis,
Vestri stomachi	Deus est testis,
Sunt amphora Bacchi!	Teterrima pestis!

Which has been crudely Anglicised as follows:—

O Monks, ye reverend drones, your Guts
Of Wine are but so many Butts:
You are, God knows (who can abide ye?),
Of plagues the rankest, *bona fide!*

Mohammedanism has distinguished itself among the great religions for its doctrine of total abstinence. It is well known, of course, that the prohibition is not regarded with so much awe among the more sociable leaders of this creed in the present day, but there is no doubt that in this particular the original teaching of the great Arabian prophet did have its beneficial effects.

Of all the poets who have collected varied opinions on the use of wine there is certainly none who has given the *pros* and the *cons* their actual relative value with so much insight into human nature, and so much accuracy of moral and physical facts, as did Homer. He makes the leader of the Grecian host a wine-bibber, while he makes his warrior-hero, Achilles, comparatively abstemious. The aged, wise, and somewhat garrulous Nestor has always been a sociable drinker. The Trojan hero, Hector, who fights honourably in defence of his country and relations, who has been brought into his troubles by the fault of a worthless brother, and who presents a happy combination of the warlike and the domestic virtues, is of exemplary temperance. It is well known to every athletic tyro that very temperate habits are necessary to muscular development; and it is interesting to notice in this connection that Samson, the strong man of the Israelites, was "a Nazarite unto God from the womb." The person so vowed refrained from three things—*drinking of wine; cutting the hair; approaching the dead.* The teetotalism of the Israelitish hero is celebrated by our own Milton in one of the most eloquent passages of his Samson Agonistes:—

Wherever fountain or fresh current flowed
Against the Eastern rays, translucent, pure,
With touch Ethereal of Heaven's fiery rod,
I drank, from the clear milky juice allaying
Thirst, and refreshed; nor envied them the grape,
Whose heads that turbulent liquor fills with fume.

The *good effects* of wine, when judiciously used, and on appropriate occasions, are acknowledged even by the more temperate of Homer's characters. The mother of Hector recommends her heroic son to recruit his exhausted strength by the use of wine (*Iliad*, VI., 258–262—quoted at the opening of this section). The answer of the Trojan hero is a genuine index of unflinching endurance:—

Μή μοι οἶνον ἄειρε μελίφρονα, πότνια μῆτερ,
Μή μ᾽ ἀπογυιώσῃς, μένεος, δ᾽ἀλκῆς τε λάθωμαι.

—VI., 264-5.

And we find the same Hector hospitably recommending the use of wine (with bread and meat) in a feast preparatory to a sweeping attack on the besieging Greek forces:—

'Εκ πόλιος δ'ἄξεσθε βόας καὶ ἴφια μῆλα
Καρπαλίμως, οἶνον δὲ μελίφρονα οἰνίζεσθε,
Σῖτόν τ᾽ ἐκ μεγάρων, . . .

—VIII., 505–7.

Very similar is the genial advice which the long experience and hospitable kindliness of Nestor prompt him to give to Machaon, son of Æsculapius, one of the Surgeon-Princes of the Greek army:—

Φράζεο, δῖε Μαχᾶον, ὅπως ἔσται τάδε ἔργα·
Μείζων δὴ παρὰ νηυσὶ βοὴ θαλερῶν αἰζηῶν.
'Αλλὰ σὺ μὲν νῦν πῖνε καθήμενος αἴθοπα οἶνον,
Εἰσόκε θερμὰ λοετρὰ ἐϋπλόκαμος Ἑκαμήδη
Θερμήνῃ, κὰι λούσῃ ἀπὸ βρότον αἱματόεντα.

—XIV., 3–7.

On the other hand, the less abstemious Agamemnon is sometimes found severely reproaching his compatriots and allies for their greater energy in eating and drinking with him than in fighting with their Trojan foes:—

Ἔνθ᾽ φίλ᾽ ὀπταλέα κρέα ἔδμεναι ἠδὲ κύπελλα
Οἴνου πινέμεναι μελιηδέος, ὄφρ᾽ ἐθέλητον·
Νῦν δὲ φίλως χ᾽ ὁρόοιτε καὶ εἰ δέκα πύργοι 'Αχαιῶν
Ὑμείων προπάροιθε μαχοίατο νηλέϊ χαλκῷ.

IV., 345-8.

And bitterly taunting them with their failure to redeem the boastful promises which they had made over their flowing cups before starting on the expedition against Troy:—

> Αἰδὼς, Ἀργεῖοι, κακ' ἐλέγχεα, εἶδος ἀγητοί·
> Πῇ ἔβαν εὐχωλαὶ, ὅτε δὴ φαμὲν εἶναι ἄριστοι·
> Ἃς ὁπότ' ἐν Λήμνῳ κενεαυχέες ἠγοράεσθε,
> Ἔσθοντες κρέα πολλὰ βοῶν ὀρθοκραιράων,
> Πίνοντες κρητῆρας ἐπιστεφέας οἴνοιο·
> Τρώων ἀνθ' ἑκατόν τε διηκοσίων τε ἕκαστος
> Στήσεσθ' ἐν πολέμῳ; . . . . .
>
> —VIII., 228-234.

And so on. There can hardly be pointed out any series of compositions by a single hand in which the use and abuse of wine, both as a social and physiological factor in human life, are more truthfully or more clearly indicated than in the verses of the Homeric poems. The subject is opened with the abusive speech of Achilles, wherein the almost divine inspiration of the poet is vividly shown in the clearness with which he indicates the objectionable qualities that are likely to be associated in a person placed in a position of power, when inclined to this form of self-indulgence. The Generalissimo of the Greek forces is not the hero of the poem which celebrates the leading events of the siege which he conducted—very far from it, indeed. In a self-electing body we do not often see the ablest man placed at the head of affairs. In one of the most remarkable political works of modern times, "The American Commonwealth," by Professor Bryce, the author devotes a chapter to consideration of the fact that a really brilliant man has hardly ever been made President of the great Republic of the United States. Nothing can be more certain in matters mundane than that where the voters choose their own ruler, the candidate who has least chance of obtaining a majority at the ballot is the one who has made every member of the constituency feel his intellectual inferiority—the one injury which no man has ever yet been known to forgive to another. And in keeping with this fruit of the overshadowing upas of self-love, is the fact that we so often see the Presidents of scientific and semi-scientific institutions specially selected for their ignorance or stupidity, or for an unusually happy combination of both these endowments. Some wise man has said before now that there are two creatures who can reach the apex of the loftiest pyramid with safety—the eagle and the reptile. And whoever examines with care the structure of a self-regulating human pyramid, will, in a large proportion of cases, find the apex occupied by the bouncing bully or the crawling sneak. But it is probably an error to regard such an arrangement as injurious to the real interest of the other members. Surely, if it be true that the pursuit of happiness is the main-spring of human action, the great object of existence is much more nearly secured to the majority when enabled to look up to those placed in authority over them with contempt or derision—or even disgust—than if the reverse were the case.

(*To be continued.*)

TRIONAL.

From thirty cases in which he used trional, Dr. Boudeau, of Paris, (*The Times and Register*) draws the following conclusions:—1. Trional is a good hypnotic in mental disorders, as well as in the insomnia of miscellaneous origin. 2. It seems to act upon the cerebral cortex. 3. It succeeds generally in the insomnia attended by pain. 4. It is inefficient during violent excitement or when there is a severe cough. 5. It excels sulphonal in its rapidity of action and it is not a cardiac depressant as is chloral. 6. It is a useful hypnotic for those who have contracted the chloral habit. 7. Small doses (15 to 30 grains) are hypnotic, large doses (30 to 60 grains) sedative. 8. Trional is not an analgesic. 9. It does not derange the circulatory, respiratory, or digestive system. 10. Slight symptoms of intoxication usually follow the first dose.

MIDWIFE'S MIDWIFERY.

Sawicky (*Przeglad Chirurgiczny*) reports a case where a midwife mistook the breech of an infant for a vertex presentation. The child was delivered in a few hours with a ruptured perineum. One month later Sawicky was consulted, for the child suffered from incontinence. Examination of the patient showed a cystocele, cicatrisation of the perineal tear, with a vaginal opening and a slight prolapse of the rectum. The anus was wounded, the tear going as far as the internal sphincter.—*The Times and Register.*

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

The Great Famine in Ireland and a Retrospect of the Fifty Years 1845–95*: with a Sketch of the Present Condition and Future Prospects of the Congested Districts.* By W. P. O'Brien, C.B.; Formerly Poor Law and Local Government Inspector; late Vice-Chairman, General Prisons Board; Author of "The Local Government and Taxation of Ireland." London: Downey & Co. 1896. 8vo. Pp. 340.

To the waning few who, like ourselves, have personal remembrance of the horrors of the Great Famine, this book—numerical and statistical though, to a great extent, it be—will be full of melancholy interest. The historian, the politician, the student of social science, will find it full of valuable information. As medical men, we confess to being, perhaps unreasonably, disappointed. There is abundant illustration of the "blundering" of well-meaning but alien legislators and the "plundering" which flourished rankly on the "public works." With these things we have no concern in these pages; and, naturally enough, Mr. O'Brien's lucid narrative is but little occupied with details of the ravages of disease, or with the share which typhus, famine fever, and absolute starvation bore in the appalling depopulation of our country. He seems to us to minimise these factors in the destruction of our people, and to attribute to the emigration drain an excessive part in the depletion of the Irish population. We did not notice even an allusion to the mortality which accompanied and followed the unhappy fugitives whose emigration ended by famine-diseases on board the crowded transports or in American hospitals. Such losses were losses not by emigration but by famine. Here and there we find figures which help us to realise the mortality directly or indirectly due to famine. For instance, a census taken in two electoral divisions in Kerry led to an estimate that in one 12 per cent., in the other 20 per cent., of the population had perished. In the Poor Law Commissioners' Report for 1849 it is stated that since the 1st of May, 1848, nine inspectors, seven vice-guardians, seventy Union officers had died of "fever" or of cholera; 97 deaths of similar officials having occurred between April, 1847, and May, 1848. "This brings the total number of public servants who, in this Department, had within the space of two years fallen victims to duty, to 183—of whom nine were workhouse chaplains and medical officers." What frightful mortality, amongst those whom these men died to help, these numbers faintly indicate, who can estimate?

In the twelfth chapter of Mr. O'Brien's work we have a detailed account of one of the secondary effects of famine, due, in great measure, to the concentration of its unhappy victims in overcrowded workhouses. In 1849, 1850, and 1851 purulent ophthalmia prevailed in several of these receptacles of helpless misery and wrought much mischief. In the Athlone and Tipperary Unions the outbreak was most severe; and Dr. Jacob was deputed by Government to report upon the epidemic in the former, Dr. Wilde in the latter. None more competent could be found anywhere; and what could be done to stay the plague was done; but Mr. O'Brien's figures show the amount of suffering and of permanent damage to sight which this unprecedented outbreak of ophthalmia caused. In 1849, of 932,284 persons admitted to the Irish workhouses, 13,812 were treated for inflammatory eye-disease; of whom 189 recovered with impaired vision, 114 with the loss of one eye, and 37 became totally blind. In 1850 the disease was more severe, 27,200 out of 805,702 were attacked; "506 suffered partial injury, 202 lost one eye, 80 both eyes." In 1851, 45,947 persons were attacked; 263 became totally blind, 656 lost one eye, and 754 had vision impaired. The disease then gradually died out.

Partial failures of the potato-crop there had been before; but the calamity of 1845 was unprecedented both in its causation and in its severity. Previous failures had been traceable to climatic causes—frost, heavy rains, storms. In this case people and Government had to deal with an unknown enemy, and both were powerless. Science availed nothing, and all the machinery necessary to save a nation from the most deplorable of deaths had to be invented and constructed. The processes were slow and many died. There is good ground for Mr. O'Brien's suggestion that the difficulties of the situation were aggravated by the fall of Sir Robert Peel, who had been Chief Secretary and who knew something of Ireland—probably as much as a British Chief Secretary ever knows or cares to know. The difficulties were great and manifold. Even the ordinary means of distributing food-supplies were wanting, for there were few provision-dealers or none. The people had subsisted on potatoes raised by themselves, and there was no place for the provision-shop. Even the prejudices of the suffering people were at first a serious hindrance to their relief. They objected to Indian meal because the use of it would turn them black!

In March, 1846, the first legislative attempt to avert starvation was made. It established "public works," throwing half the cost on the occupying tenants, "thus practically leaving the owners of property without any direct interest in controlling the expenditure"—and without contributing a penny of its amount. This Act was a failure, and, in August, 1846, Parliament mended its hand. There was no free grant of any part of the expenditure this time. The *whole* was made a local charge; and owners had to bear a share of the burden. Had so overwhelming a catastrophe as the Irish famine occurred in England—or in India—the State would unquestionably have borne the cost of averting ruin. Ireland was fed by loans from the Imperial Treasury, of which a large proportion was wasted by mismanagement. The advances from the public Treasury reached the enormous total of £7,330,491. Of this sum "a considerable amount" says Mr. O'Brien, "had been from the first made the subject of a free grant, and of the remainder, one moiety was given similarly." We have seen that the Act of April, 1846, gave half the expenditure on relief works as a free grant; but that this liberality disappeared from the August Act of the same year. We do not find in these pages what the amount of "loans," consolidated by an Act of 1850, and remitted in 1853, was; nor how much the "free grants" came to. Ireland's debt to the Imperial Treasury, incurred to preserve a portion of her people from death by hunger and famine-diseases, was forgiven in 1853—and Income-tax was imposed upon the impoverished country.

Free grants, bearing no interest but gratitude, were made by every country of the civilised world. Details of these generous contributions to the relief of Ireland's misery will be found in this volume. One item only we shall mention. It was estimated that the exiles who had escaped to America and found there "bread and work for all," sent home, in 1847, to those they had left behind, £200,000.

One beneficial result of the experiences of the famine was the establishment, in 1851, of the dispensary system in Ireland. Of this Mr. O'Brien does not exaggerate when he says that "probably in no other country that we are acquainted with do the sick poor now possess the advantage of having a better equipped or more complete system of medical relief." There are now 1,155 dispensaries in Ireland, with a staff of 813 medical officers, 45 compounders, and 861 midwives. In the year ending 29th September, 1893, 577,405 new cases were registered. How many of these were really entitled to gratuitous relief is not mentioned.

We must pass over the improvement in the care of the insane, which has taken place in *post*-famine years, and say a few words on Mr. O'Brien's concluding chapters, which are devoted to the "Congested Districts" and their Board. These districts lie in the counties of Cork, Donegal, Galway, Kerry, Leitrim, Mayo, Roscommon, and Sligo, and contain 3,608,569 acres, with a population of 549,516. They "represent about one-sixth of the area, one-ninth of the population, and one-twenty-fifth of the rateable valuation of the entire country." The Board is supposed to deal with the agricultural development, the forestry, the breeding of live stock and poultry, the sale of seed potatoes, and seed oats, the amalgamation of small holdings, migration, emigration, fishing, weaving and spinning; and, lest it should not have enough to do, "any other suitable industries" are thrown in. To carry out this comprehensive programme, the Congested Districts Board has at its disposal £41,250 a year, supplied by the Irish Church Surplus, with some £86,000 "in cash securities, and outstanding loans" made up of the fag-ends of old funds; *and* permission to "accept gifts of property real and personal." How much accrued from this last source beyond £2,500, portion of the unexpended balance of the "Irish Distress Fund" of 1891, we are not informed. Not one shilling is contributed by Parliament—not one shilling will be.

We cannot express in plainer language than Mr. O'Brien's the ridiculous disproportion between the financial needs of this Board and the paltry £40,000 a year (of Irish money) which constitutes its available income.

> "It is certain," he says, "that the situation of the Board has been rendered a peculiarly difficult, if not painful, one by reason of the great disproportion that exists between the magnitude of the task assigned to them, and the wholly inadequate means placed at their disposal for its successful accomplishment.
>
> "In their first report they found it necessary to remind the public that the income placed at their disposal is only at the rate of a few shillings for each family in the congested districts; and in their second report they add to this that for every thousand pounds they were in a position to expend, one hundred thousand would be required, if they were to undertake the construction of all the works that are vigorously and influentially pressed upon them."

In one opinion of Mr. O'Brien's we are unable to concur—that he has performed the task he undertook "in a very imperfect and inadequate manner." From his book alone can be obtained a history, comprehensive, yet detailed, of the Great Famine, and his work is well done. There are a few misprints, in names of persons and places, illustrating one disadvantage attending the printing in England of an Irish book.

The Pathology of the Contracted Granular Kidney and the Associated Cardio-arterial Changes. By SIR GEORGE JOHNSON, M.D., F.R.S. London: Churchill. 1896. Pp. 62.

IN this work the late Sir G. Johnson states, in his accustomed clear and vigorous style, the views which he has held on the connection between the disease of the kidneys and the associated vascular changes. These latter he holds to be a true hypertrophy of the muscular coat, and, in the kidneys, of the intima, while in other parts the hypertrophy affects the muscular coat and the adventitia. The muscular hypertrophy is due to persistent over-action, which, with the resulting hypertrophy of the renal arterioles, "would appear to be the result of a physiological principle, that when from structural change or functional incapacity of an organ, the changes which ought to take place in its capillaries, do not take place, and the blood consequently is not in a fit state to pass through and from them, the minute arteries, through vaso-motor nerve influence, are thrown into a state of contraction: their stop-cock function is brought into play."

The arterial hypertrophy is, however, not confined to the kidneys but universal throughout the body, with the exception of the pulmonary vessels. "This is the necessary result of an intelligible physiological law which requires that the propelling and the resisting and regulating forces by which the circulation of the blood is effected should be counterpoised. If the arterioles of any organ or tissue failed to have their walls strengthened in proportion to the increased driving force of the hypertrophied left ventricle, the capillaries which receive the blood from such arterioles would be liable to over-engorgement and to become ruptured."

The hypertrophy of the intima or adventitia is in order to resist elongation of the vessels under the action of the hypertrophied heart. This cardiac hypertrophy is due to increased resistance due to the persistent contraction of the arteries under the stimulus of the impure blood.

A vigorous criticism of those writers who differ from the author follows. He objects to Dr. Beale, that this observer has examined arteries in a condition of lardaceous degeneration, while the criticisms directed against the arterio-capillary fibrosis of Gull and Sutton need not be repeated, as they are an example of slaying the slain. Sir William Broadbent's view that the obstruction is in the capillaries, not in the arterioles, meets with no favour.

The secondary degenerative changes which occur in the larger arteries are next described, and the danger of cerebral hæmorrhage thus induced is noticed.

In the second part of the work a description is given of the pathological changes in the uriniferous tubes of the contracted granular kidney. The atrophy of these structures is well described. "The result of repeated long and careful investigations is the conclusion that the wide expanse of material between the tubes contains the wasted remains of the original tissues, tubular and vascular, apparently blended together by the colloid material which is contained in many of the tubes, and not a new interstitial formation. In other words, these irregular interspaces are the result and not the cause of the atrophy and contraction of the tubes."

The text is illustrated by 18 drawings and two plates.

A Text-book of Histology, Descriptive and Practical, for the Use of Students. By ARTHUR CLARKSON, M.B., C.M. With 174 original coloured Illustrations. Bristol: John Wright & Co. 1896. Pp. 554.

IN this very handsome volume the author gives, first, two chapters which deal with general histological methods, such as dissociation, softening, hardening, cutting, staining, and mounting sections, injections of blood vessels, and a description of the microscope and of the essential microscopical appliances. He then considers *seriatim* the structure of the animal cell, the simple tissues, and the organs, in very much the same order as that in which they are dealt with in most text-books of Histology.

In each chapter there is, first, a systematic description of the tissue or organ under consideration, then an account of the specimens which should be examined, and, finally, a description of the methods by which the preparations should be made. A certain amount of repetition is unavoidable, but for students this is not undesirable, and the arrangement adopted makes the book useful both in the study and in the laboratory.

The descriptions are somewhat dogmatically given, and the author purposely avoids all discussion of doubtful points and of conflicting theories. This is probably a wise course to adopt in a book for students, but as the work is likely to be used by more advanced workers we think a bibliography of some of the more important recent papers would not have been out of place. It would not confuse the mere student, who would probably never look at it, while to the investigator it would be of very great value.

The text is well written, the descriptions are accurate and given with sufficient fulness, while the methods are given with enough detail to enable the student to work through them without too much difficulty.

There is not, of course, very much original matter to be looked for in the letterpress of such a book, but we would notice the account of the hæmal glands of ruminants and some other animals given in Chapter IX. These remarkable organs are of two kinds—small and large—the former very numerous, situated in the pre-vertebral fat, vary in size from that of a pin's head to that of a pea. They have been observed in the pig, horse, ox, and sheep, but have not as yet been found in man:—

"These structures are invested with a thin capsule of connective-tissue. Beneath the capsule is a sinus, not unlike the sub-capsular sinus of a lymph gland, in that its wall is formed of a layer of epithelioid cells, and it is traversed by a coarse adenoid reticulum. Here, however, the sinus contains not lymph, but blood. Within the sinus we have the main mass of the gland, which consists of lymphoid tissue, with large spaces or sinuses in it containing blood. These spaces are in communication with each other at various points, and also with the peripheral sinus. The centrally-placed spaces do not, however, contain an adenoid reticulum. The inner surface of the capsule, and the lymph follicular tissue throughout the gland, are covered with a layer of epithelial plates.

"The second variety of hæmal gland is more nearly related to an ordinary lymph gland. Such glands are found in the pre-vertebral fat, but are specially localised in the region of the kidneys, where they may be found to the number of a dozen or more clustered about the renal vessels. Like the smaller glands they are soft and pulpy in consistence, and of a dark chocolate colour. On section they seem to have somewhat the same structure as a lymph gland, except that the medulla appears to be represented by a more or less compact mass of lymphoid tissue rather than by the networks of trabeculæ and lymph cords; and the peripheral sinus is filled with blood."

The distinguishing feature of the work, however, is to be found in the illustrations. The volume contains 174 figures in 88 coloured plates, besides several wood engravings. Most of the drawings are of very great beauty, and are exceedingly demonstrative of the structures which they represent. In some cases they appear a little schematised, and the colouring rather brilliant. For instance, we are not familiar with the vivid reds and yellows represented in some of the hæmatoxylin preparations. On the whole, however, they are most excellent, and furnish a high standard, at which the student should aim in his own preparations. Considering the size of the volume and the way it is illustrated and brought out, the price is exceedingly moderate. We would most cordially recommend it to all students of histology.

Die Pathologie der Schutzpocken-Impfung. Von S. R. Dr. L. Fürst, Special Arzt für Kinderheilkunde. Berlin: Verlag von Oscar Coblentz. 1896. Pp. 110.

This work is part of the mass of literature which the centenary of Jenner's great discovery has called out. In his preface the author points out how the last great century is distinguished at its commencement by the discovery of vaccination by Jenner, and at its end by the logical outcome of that in the shape of the antitoxin therapeutics of Behring. While in the latter case we can accurately dose the remedial agent, we are still unable to do so in the case of Jenner's vaccine, the virus of which has not yet been isolated or its real nature determined.

The present work is intended as a contribution to the homage which the entire world pays to the memory of the great English discoverer. It deals with the numerous accidents and dangers which may accompany the practice of vaccination and the way in which these may be avoided. By the precautions indicated the practice may be made safe, and the last weapons taken from the hands of the opponents of Jenner's benefaction to humanity.

The work is divided into six chapters. In the first the nature of vaccine inoculation, humanised and animal vaccine, the specific contagium, the limits between normal, abnormal, and pathological courses of vaccination, general ætiology, morbidity and mortality statistics, together with other general matters, are dealt with.

In the second chapter the symptomatology and course of normal vaccination are fully and well described.

The third chapter is devoted to the anomalies and morbid phenomena which may follow vaccination, and to remarks on ætiology and treatment.

The fourth chapter treats of infections which may accidentally accompany vaccination. Here we have everything from urticaria to tetanus and septicæmia.

The fifth chapter is on the hygiene of vaccination and the prophylaxis of accidental diseases, while in the sixth an extended bibliography is given.

The work is written with true German exhaustiveness, and is a valuable contribution to the literature of a most important branch of Preventive Medicine.

The Frog: an Introduction to Anatomy, Histology, and Embryology. By the late A. MILNES MARSHALL, M.D., &c., &c. Edited by G. HERBERT FOWLER, B.A., Ph.D. Sixth Edition, Revised and Illustrated. London: David Nutt. 1896. Pp. 168.

THE sixth edition of a book whose first edition was published in 1882 does not call for much comment. "Professor Marshall had so complete a grasp of the difficulties which confront a student of elementary zoology, and so great a sense of proportion and arrangement, that no substantial alteration could increase the educational value of his work." This well-deserved compliment paid to the memory of a great man by the editor explains why the alterations and additions in the present issue are few.

After an introductory chapter on the methods of dissection and the use of the microscope, the general anatomy of the frog is considered. We have then chapters on the vascular system, the skeleton, the muscular system, the nervous system, the eye and ear, and the reproductive organs and the cloaca. Then there is a long chapter on the development of the frog, and, finally, a chapter on the microscopic anatomy of the simple tissues and glands.

It is needless to say that the descriptions throughout are clear and precise, and the directions to the student most practical and unmistakable. The text is illustrated by 38 drawings, and there is a good index. We can hardly conceive a more useful work than this for a student commencing the study of anatomy. While it contains nothing that is superfluous, it has all that is essential to lay a good foundation for future work.

The Principles of Bacteriology: a Practical Manual for Students and Physicians. By A. C. Abbott, M.D., First Assistant, Laboratory of Hygiene, University of Pennsylvania. Third Edition, enlarged and thoroughly revised, with 98 Illustrations, of which 17 are coloured. London: H. K. Lewis. 1896. Pp. 493.

We are much pleased with this work; it appears to us to be a reliable and clearly-written guide to the principles of Bacteriology; and we congratulate its author on the success his book has met with. The first edition was published about the end of 1891; the second after two years and a half; and now, after sixteen months, a third edition is called for. Such a success, especially in a subject like Bacteriology, where what was new a month ago is already old and displaced by some novel observation or theory, shows that the book was well thought out and arranged, and that its help was needed by many.

It is, as is expressed in the title, an Introduction to Bacteriology, intended rather for the beginner than for the professor. The author has, wisely we think, made no attempt to cover the whole field, but has confined his attention to the microbes which are of common occurrence, or which are important from their pathogenic properties.

After a brief historical introduction, the author gives a short account of the morphology of microbes, and then gives a very good description of the apparatus and materials in use in bacteriological laboratories—such as sterilisers, nutrient media and their uses, staining solutions, &c. Then he describes in some detail the more important varieties of bacteria, this section being provided with a good many very well-drawn coloured illustrations. There are also chapters on Immunity, and the bacteriological examination of water and air. At the end there is a list of instruments, reagents, &c., needed in bacteriological work.

The book is very practical in its tone, and intended to help the beginner in his laboratory work. Exercises and experiments are introduced frequently in the pages of the book.

We can recommend the work as an Introduction to Bacteriology.

History of the Cholera Controversy, with Directions for the Treatment of the Disease. By SIR GEORGE JOHNSON, M.D.Lond.; F.R.C.P.; F.R.S.; Physician Extraordinary to Her Majesty the Queen, &c. London: J. and A. Churchill. 1896. Pp. 78.

IN this work the author, whose death since this work was published we have to regret, has recounted the controversies that he has been engaged in as to the treatment of cholera since 1849. He shows at the end that after forty years his evacuant or eliminative treatment is now being generally looked on not only as rational and scientific, but in practice most successful. Most authorities at the present day recommend, in the early stages of cholera and diarrhœa, a dose of castor oil or some other purgative medicine to clear, if possible, the irritant, whatever it is, from the intestinal canal.

On this point Sir G. Johnson is on solid ground; but when he speaks of his theory of collapse in cholera, we confess we find it difficult to follow him. He believes that the impeded circulation through the lungs during choleraic collapse is a result of contraction of the muscular arterioles of the lungs excited by the poisoned blood. The impeded circulation through the lungs is the *cause* and not a *result* of the blood-thickening. Defective oxidation, consequent on the scanty stream of oxygen-carrying blood through the lungs, contributes to the blood-thickening by lessening the disintegration of the solid constituents, which consequently accumulate in the blood.

All this appears to us to be very doubtful.

Taking the book as a whole, we regret its appearance: to recall to mind the controversies of 40 years ago is rarely wise; we feel that its distinguished and regretted author would have been more dignified had he been content with the very general approval which his views as to treatment have acquired.

The American Year-Book of Medicine and Surgery: being a Yearly Digest of Scientific Progress and Authoritative Opinion in all branches of Medicine and Surgery, drawn from Journals, Monographs, and Text-Books of the leading American and Foreign Authors and Investigators. Collected and arranged, with critical editorial comments, by various authors, under the general editorial charge of GEORGE M. GOULD, M.D. Profusely illustrated. Philadelphia: W. B. Saunders. London: The Rebman Publishing Co. 1896. Pp. 1,183.

THIS Year-Book, in its size, its elaborateness, and its style, certainly is far in advance of anything that has been produced in Great Britain. It forms an unusually handsome volume, and contains an enormous amount of information. And we have much pleasure in saying that we have been struck by the quality as well as the quantity of the contents of the work; the authors appear to have succeeded very well in their attempt to boil down, so to speak, the medical work of a year into eleven hundred large pages. Special attention is not paid to treatment, as in some English Year-books; this branch is noticed very fully, but not to the exclusion of the other parts of medical science.

General Medicine is under the charge of Drs. William Pepper and Stengel. Drs. W. W. Keen and J. C. Da Costa are the authors of the section on General Surgery. This section, although it seems invidious to say so when all is good, particularly pleased us. The advances made in operative surgery are extremely well described and are plentifully illustrated. As might be expected, the vermiform appendix receives a great deal of attention. Many of the American authorities quoted favour operating on every case of appendicitis at the earliest possible moment. This rule commends itself by reason of its simplicity, and if generally adopted will lessen the anxiety and difficulty in deciding whether to operate or not which are now entertained by medical practitioners. We think, however, that the majority of medical men in this country will hardly agree with so radical a course of procedure. In favour of the American view, however, we may say that from the accounts given of the disease by authors on the western side of the Atlantic, the disease appears to be far more malignant than it is in the United Kingdom. One American author writes of the proportion of cases that get permanently well and are cured after one attack as being "infinitely small."

The section on Obstetrics is edited by Drs. Hirsh and Dorland, while that on Gynæcology is under the charge of the latter author and of Dr. Baldy. Both sections are long and well illustrated—indeed, the number and excellence of the illustrations of operative surgery and gynæcology distinguish this from other Year-books.

There are chapters on Diseases of Children; on the Eye, the Ear, and the Skin; on Pathology and on Therapeutics; on Anatomy and on Physiology—in short, we look on the "American Year-Book" as giving a most excellent account of the year's advances in medical science, and as being a most valuable addition to our Year-books.

The Schott Methods of the Treatment of Chronic Diseases of the Heart, with an account of the Nauheim Baths and of the Therapeutic Exercises. Illustrated. By W. BEZLY THORNE, M.D. Second Edition. London: J. and A. Churchill. 1896. Pp. 83.

THE first edition of this work was published in the spring of 1895. The fact that a second edition has so soon been called for is in itself a proof of the widespread interest which the Schott methods of treatment have produced in this country.

The work before us gives the most complete account of the treatment that exists in the English language. It begins with an account of the Nauheim Baths, and their effects on the cardiac dulness and on the pulse. Then the therapeutic movements are thoroughly described, the account being illustrated and explained by many figures which show the movements in a clear and distinct manner. A number of illustrative cases are appended; in most of these a diagram is given showing the diminution of the heart-dulness and the diminution of the size of the organ, as proved by the apex which had been beating to the left of its normal position returning to its proper place. The last case is one from the practice of Sir Philip Smyly, and is quoted from a paper written by him; a letter of Dr. Cruise's is also printed testifying to the good an aged patient of his had received from the treatment.

If any of our readers are interested in the subject they should at once purchase Dr. Thorne's work.

King's College Hospital Reports: being the Annual Report of King's College Hospital and the Medical Department of King's College. Edited by DRS. N. TIRARD, W. W. CHEYNE, J. PHILLIPS, and W. D. HALLIBURTON. Vol. II. London: Adlard & Son. 1896. Pp. 376.

THIS, the second volume of these annual reports, contains, as did its predecessor, several points of interest. After a historical sketch of the hospital by Dr. Curnow, we find a paper by Dr. Tirard on Intermittent Pulse, in which it is shown that this symptom is no mere harmless peculiarity; on the contrary, it is not to be disregarded, as it is often met with in conjunction with serious pathological conditions. Sir H. Beevor contributes a careful statistical paper on the Diagnosis and Prognosis in cases of Heart Disease. Mr. Cheatle has an interesting account of researches he made into the bacteriology of wounds which healed by first intention. In 8 out of 25 cases he succeeded in cultivating microbes from the secretions present in the wounds, stitch-tracks, &c., but in each case the microbes were non-pathogenic bacilli.

There are detailed reports of Cases of Interest from the medical and surgical wards; and Reports of the Obstetrical, Throat, Pathological, and other Departments.

The Report shows what good work has been done in the hospital during the year.

The Ætiology, Symptoms, and Treatment of Gall-Stones. By DR. J. KRAUS, sen., of Carlsbad. With additional remarks on operative treatment by HENRY MORRIS, M.A., M.B. (Lond.), F.R.C.S. London: Kegan Paul, Trench, Trübner & Co., Ltd. Crown 8vo. Cloth. 1896. Pp. 173.

THE subject of gall-stones is at the present time one of particular interest. There is, perhaps, no branch of abdominal surgery which has made more satisfactory progress than the operative treatment of affections of the gall-bladder and bile ducts. We find here, however, as is so commonly the case, that increased power of diagnosis has not kept pace with operative advance. Such being so, a book setting forth the experience of one who has had under his care a vast number of cases of this class could not fail to be interesting. Dr. Kraus has indeed had extraordinary opportunities of making observations. He has, he tells us, treated 1,500 cases during the period between 1881 and 1889 alone.

The book is divided into two parts. Part I. deals with the subject in a systematic way, and is supplemented by a concise and in all respects excellent chapter on the surgical treatment of gall-stones by Mr. H. Morris. Part II. is given up to the record of cases.

The author has not confined himself to the purely clinical aspect of his subject; he has not hesitated to trespass upon the dangerous field of pathological theory, and in this we think he has erred. We hold it to be a general and a safe rule for men essentially clinicians to make it their duty to endeavour to establish facts rather than to propound theories. We believe this to be particularly true in the present instance. The cause of the formation of gall-stones is exceedingly obscure, nor can this be otherwise until Physiology can teach us something more definite of the history of the various constituents of the bile. We know, at present, next to nothing of the circumstances which influence the formation of cholesterin, the chief constituent of the concretions, and very little of the bile-salts which would appear to be in large measure responsible for keeping this cholesterin in solution.

When Dr. Kraus states that he finds obesity ("adiposis") frequently in patients suffering from gall-stones he confirms the teaching of previous observers, and we are indebted to him, but when he describes this condition as an actual cause of the stone formation he is, to say the least, guilty of great rashness. He goes on to explain the connection in a manner which we regard as a serious blemish to his book.

We have read with much interest the account of the course and symptoms of the disease, but we cannot think that the group of symptoms he describes under the name "Prodromal" is really of such great importance. Apart from other objections which we might urge, the symptoms are very vague, and indeed with but little alteration would probably be claimed by some as due to "lithiasis." Amongst them we are surprised to note migraine.

We do not wish it to be understood that we doubt for a moment the fact that these vague symptoms do sometimes precede unmistakable evidence of gall-stones, but we do dissent from the view that they are in any sense prodromal.

In the chapter on diagnosis we are much surprised and disappointed to find so little concerning the diagnosis of gall-stones from malignant disease. This chapter concludes with a most striking instance of the danger we have pointed out. Dr. Kraus has, he states, repeatedly observed the occurrence of diabetes mellitus "in the course of long-lasting cases of cholelithiasis followed by violent colics." This is an important and extremely interesting clinical fact, but here, as elsewhere, he seems to feel himself bound to discuss pathology, and nowhere has he been more unfortunate than in the following passage:—"I am inclined, from my own experience, to think that cholelithiasis forms a link in the chain of those general disturbances of alimentation of which the starting-point is mostly adiposis, to which is frequently added increase of uric acid secretion and oxaluria (functional derangement of urinary system), and from the same source (adiposis), though often from quite independent causes, cholelithiasis is developing, and sometimes, as a last link in the chain, diabetes mellitus (functional derangement of the liver and portal system) occurs"!

We have read with interest and profit the author's outline of the therapeutics of cholelithiasis, and we willingly endorse what he says with reference to surgical operations:—"They are so far from being free from risk that a conscientious physician will carefully consider the circumstances, and try all possible remedies before making his final appeal to surgery."

Setting aside the defect which we have pointed out, perhaps with too great emphasis, we regard the book as a useful contribution to the clinical literature of the subject.

Aids to Medicine. By NORMAN DALTON, M.D. Lond.; F.R.C.P.; Physician to King's College Hospital and Professor of Pathology in King's College, London. London: Baillière, Tindall, and Cox. 1896.

IT is difficult to imagine more uninteresting reading than the perusal of one of these "Students' Aids." Continuous attempts to master a Dictionary is, on the whole, perhaps more tiresome. It is possible that a use may be made of these pocket "Aids" by an unscrupulous student at a written examination where a close supervision is not exercised by the Examiner; but even in that case, taking at random what is written on Leucocythæmia, we doubt if a "pass" mark would be conferred on a "final" student who had copied the whole verbatim. We prefer to rank these manuals with compressed meats and other aids to digestion, which are entirely out of place in a healthy organisation. Dr. Norman Dalton has expended much labour in the production of his two small volumes, and he has certainly compressed a great deal of information into the limited space at his disposal, but, as one would naturally expect, there is little attempt at originality. We note, however, the spelling of expiration (*sic*) wherever the word is used, which, at the same time, may not be the author's fault; and, further, we observe an attempt at precision in the subdivision of dry râles into rhonchi and sibilli.

While we do not hold with the use of such "Aids," and advise all capable students to avoid them, we must, in fairness to Dr. Dalton, acknowledge the ability he has displayed in boiling down "The Practice of Medicine."

Medical and Surgical Report of the Presbyterian Hospital in the City of New York. Volume I. January, 1896. Edited by ANDREW J. M'COSH, M.D., WALTER B. JAMES, M.D. Pp. 256.

How long the Presbyterian Hospital has been working in New York is not revealed in this first volume of its Reports; and, owing to the absence of "grand totals," it is not easy to ascertain the capacity of the institution, either as a whole or in its sections. Glancing over the appended tables we were struck by the extraordinary preponderance of "chronic endocarditis," of which 130 cases were treated in a year, the next most frequent disease being "typhoid" (98). "Simple anæmia" contributed 38 cases, "chronic gastritis" 40, acute bronchitis 61, chronic phthisis 57, broncho-pneumonia 56, lobar pneumonia 54, neurasthenia 68, intermittent fever 55, chronic nephritis 74, influenza 52, acute rheumatism 73. Some of these numbers are remarkable, in comparison with the statistics of our own hospitals. Turning to the Surgical Division we are somewhat surprised to find appendicitis coming in a bad second, with only 59 cases, beaten by 124 scalp-wounds. Even pyosalpinx can only muster 30 cases.

There are thirty papers in the volume, the lion's share falling to surgery. None of them seem to demand special notice, except, perhaps, the second, on Caisson Disease, by Dr. Andrew H. Smith. The excavations necessary for laying the foundations for the great Suspension Bridge over the East River at New York, in which workmen were exposed to enormous atmospheric pressure, first drew the attention of the profession to the train of symptoms which such pressure produces. Dr. Smith's twenty-four cases came from the works in which, in 1893–94, a tunnel was being driven, by means of compressed air, under the same branch of the Hudson. The pressure under which it was necessary to work ranged from 42 to 49 lbs. on the square inch, but, from the horizontal direction of the cutting, the effects were more severe than in the other case. In the tunnel the maximal pressure was encountered at once; in the vertical shaft the increase of pressure was gradual. This disadvantage was partially remedied by allowing 15 minutes for the reduction of the density of the air at each "locking-out;" but for which precaution the consequences would have been much more serious. Two of the cases were fatal; in 18 there was paralysis. In the other cases there were neuralgic pains in the limbs, with epigastric pain and vomiting in some. Both sensation and motion were affected in various degrees. "The duration was from a few hours to two or three days, and in one instance there was complete paraplegia for eight days, and at the end of ten months the patient was still walking on crutches." The treatment consisted in relieving the pain with morphin, and the depression with stimulants. Ergot also was found useful.

We observe that in 758 operations performed in the Presbyterian Hospital ether alone was used in 629, chloroform alone in 89.

DUBLIN SANITARY ASSOCIATION.

THIS Association is in its twenty-fifth year of useful work. We shall be sorry if the next Report records a further diminution of its numbers—now 179. The Address of the President, Dr. J. W. Moore, at the Annual General Meeting, discusses some subjects of great importance to public health—amongst them private hospitals and the wisely-abandoned scheme of infectious hospitals.

BENEFICENT LEGISLATION.

THE Legislature of the State of New Hampshire, U.S.A., has wisely enacted a law requiring all mercantile, commercial and manufacturing establishments employing women, to provide seats for the women employed; and to permit those seats to be used by these women in every possible instance. A heavy penalty is attached to the violation of the law.—*Pacific Medical Journal.*

PART III.

SPECIAL REPORTS.

REPORT ON GYNÆCOLOGY.

By E. **Hastings Tweedy**, Fellow and Examiner, Royal College of Physicians of Ireland; Gynæcologist to Dr. Steevens' Hospital; late Assistant Master, Rotunda Lying-in Hospital.

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Anterior Colpotomy. — Dūhrssen's anterior colpotomy, alluded to in our previous Report, is rapidly growing in favour, and has been performed at the Rotunda Hospital by Dr. W. Smyly on several occasions lately.

Dr. A. Martin, Berlin, read a paper at the last annual meeting of the British Medical Association on this subject, and we append his description and indications for the operation:—

The patient is placed in the dorsal position, with the legs raised on either side. A speculum being introduced into the vagina, the uterus is fixed with a pair of forceps invented by my assistant, Dr. Orthmann, a combination of a uterine probe and volsella which grasps the anterior lip of he cervix, so that one can draw down the cervical portion of the uterus to the vaginal introitus. You should fasten another pair of volsella forceps just under the orifice of the urethra about 3 inches from the cervical opening. The anterior vaginal wall is pulled upwards, a fold is raised which is to be incised vertically and peeled off laterally from the surface of the bladder and cervical body.

Hard fibres will be seen above the vaginal insertion, which are to be divided. The upper border is then pushed upward with the finger, separating the loose tissue between the bladder and uterus, thus carrying the former up out of the way behind the symphysis pubis. Occasionally the bladder is distinctly made out, at other times it is never seen. The peritoneum is found in the form of a fold between the bladder and uterus recognisable by its pellucid appearance; this is to be opened, when the abdominal cavity and contents are exposed to view.

A remarkable point about the operation is the small loss of blood. My 109 cases have never required ligatures or pressure forceps until the abdominal cavity was opened. Further operative procedures are to be carried out according to the requirements of the case, as I will indicate further on; these being completed, the wound is closed in the following manner with juniper catgut.

The uterus and adnexa are to be replaced in the abdominal cavity by pressing on the anterior uterine surface. A strong catgut suture is to be carried with a curved needle through the upper end of the vaginal wound, the cellular tissue at the base of the bladder, the peritoneum, and the anterior uterine wall, near the fundus, taking a good hold of it, and out again on the opposite side in the same manner, and tied.

Two other sutures close the vaginal wound connecting it with the anterior surface of the corpus uteri, a fourth the cervix. A running catgut suture is used to close the vaginal wound more exactly between these deep sutures.

I will draw your attention to the different operations which may be performed either in the interior of the uterus or in the abdominal cavity, through this opening.

1. Take first the cases of myomatous tumours. These can be removed, wherever they are situated—subserous ones simply by excision after ligating the pedicle; intramural

ones through an incision in the anterior uterine wall, which has been exposed, even if we have to enter the cavity itself.

By *morcellement* we can in time remove very large tumours, but should avoid those which extend to near the umbilicus. The special advantage of this method is to fix the anterior surface of the uterus to the vaginal wall, and so control the bleeding, if any. Should all the uterine tissue capable of function be removed, total extirpation can be carried out at once.

2. Movable retroflexed uteri can be easily replaced, and retained by vaginal fixation.

3. Peritoneal adhesions fixing the uterus are broken up with the finger, even when covering the entire surface of that organ. Any bleeding that occurs can be checked by a few sutures.

4. Cases of procidentia. In these we excise a part of the vaginal wall to make it of the proper length, fix the uterus to the upper part of the vaginal wall, which is very little disturbed, and so take the weight of the uterus from the remaining portions, retaining it in its normal position.

5. When the uterus is drawn downwards and forwards, both ovaries and tubes follow on the posterior surface as soon as they are freed from adhesions. The adhesions are easily broken up unless when fixed to the posterior surface of Douglas' pouch. Such cases I exclude from this operation, and believe that they belong to the domain of abdominal surgery.

6. Cystic ovarian tumours can be opened and brought outside, so as to expose the pedicle for proper ligation. In different instances I have emptied follicular cysts; no bleeding following, I returned the ovaries. In some I excised the diseased part, and retained the healthy, performing what we call "ovarian resection."

7. Anterior colpotomy offers great advantages in treating diseases of the tubes.

The Vaginal Route for dealing with all Collections of Pelvic Pus.—E. E. Montgomery advocates the treating all recent formations of pelvic pus by operation through the vaginal route.

Not infrequently it will be found that a pyosalpinx has ruptured into the broad ligament, forming a large pus collection, or a broad-ligament abscess has occurred independent of or without tubal disease where the peritoneal cavity is free from involvement. To evacuate it through the peritoneum endangers infection of the latter; to close the abdomen and incise through the vagina demonstrates the abdominal incision to be an unnecessary procedure.

The vaginal operation consists in making an incision with knife or scissors through the posterior fornix of the vagina, tearing the broad ligament with the finger or blunt instrument until the inflammatory collection is reached, which is punctured with closed scissors and the blades separated as they are withdrawn, thus permitting the introduction of the finger. The cavity should be thoroughly irrigated with hot sterile water. Having cleared the cavity of pus and exudation, we proceed to the exploration of the opposite side of the pelvis. If the inflammatory trouble is confined to one side we may content ourselves with packing the cavity with sterile or preferably iodoform gauze. It is important that the vaginal incision shall be free, to prevent the retention of secretion and secure free drainage. Should it be evident that both tubes are so diseased as to render their sacrifice desirable, the uterus should also be removed, and the vaginal route affords a favourable avenue for the procedure.

He enumerates the advantages of thus operating as follows:—

1. It permits us to explore, treat, and preserve organs which would otherwise be sacrificed.

2. It promotes drainage from the most dependent portion of the pelvis, and enables the large peritoneum to be protected by plastic barriers.

3. It enables us to remove the uterus and appendages with less danger and much more subsequent comfort than if the abdominal incision had been practised.

4. The adhesions which Nature has provided to protect the vital organs are undisturbed, and consequently the patient is less likely to have subsequent obstructive symptoms.

5. The convalescence is shorter, and the patient avoids such annoying sequelæ as abdominal sinus, painful cicatrix, weakened ventrum, and ventral hernia.

Deciduoma Malignum.—Since our previous Report much has been heard of the but lately recognised disease, deciduoma malignum, which was first described by Sänger.

Apfelstedt and Aschoff (*Archiv. f. Gynak.*, Vol. I., Part 3, 1896) add two more cases to the literature of this subject.

The first patient, aged thirty-three, had a complete abortion when four months pregnant; severe hæmorrhage followed the miscarriage. Four months later a mass was taken from the uterus, which on subsequent examination proved to be a decidual sarcoma. A hysterectomy was performed, but the patient died on the 26th day.

The second patient, aged forty-two, was delivered of a vesicular mole. The labium becoming swollen was incised, and the incision gave vent to a quantity of material, closely resembling the cysts removed previously from the uterus. The patient died of pyæmia a month after the latter operation, and it was then discovered she had secondary malignant deposits in lungs and spleen.

Operative Interference in Peri-uterine Hæmatocele.—Reynier condemns the expectant plan of treatment and points to the statistics of Martin; 265 cases treated expectantly, mortality 63 per cent.; 585 treated by operation, mortality 24 per cent. The procrastinating method of expectant treatment is slow, and exposes the patient to relapse, suppuration, and pelvic peritonitis. The most frequent cause (90 per cent.) of peri-uterine hæmatocele is extra-uterine pregnancy. Operative interference is advised for the following reasons: (1) to arrest the hæmorrhage; (2) to remove from the peritoneal cavity the blood and products of pregnancy; (3) to remove the diseased adnexa and thus assure definite cure. If the hæmatocele is suppurating, vaginal laparatomy should be performed, while the abdominal incision is selected in recent, non-suppurating cases. The author supports his views by a report of twelve cases, laparatomy and recovery in every case.

. *A Contribution to the Pathological Anatomy of Puerperal Eclampsia.*—The various organs of two cases of eclampsia were subjected by Leusden to a minute microscopical investigation. He gives his results as follows:—I have found nothing which indicates the infectious (bacterial) origin of puerperal eclampsia. The probability is that a toxic substance circulating in the blood is the cause of the eclamptic attacks. The changes in the kidneys are the principal organic lesions. The placental giant cells which are found in the lungs are neither a cause nor a result of eclampsia. The embolism of these cells is only an accidental coincidence. Even the most careful searching failed to show emboli containing liver cells. The minute necrotic changes in the parenchyma of the liver, present in both cases, could not be connected with the cause of eclampsia. The hyaline (fibrous) thrombi of the lung and liver capillaries are the result of secondary changes (uræmic?) which occur independent of eclampsia.

Critical Remarks about Vaginofixation and Colpocœliotomy in their relations to Pregnancy and Labour.—A. Mackenrodt states:—The suturing of the fundus uteri to the vagina, after the peritoneum has been opened, leads to the formation of firm adhesions which hold the uterus in a position of pathological anteflexion. Under such conditions normal pregnancy and labour are only possible if these adhesions are broken either spontaneously or forcibly. If they remain intact the pregnancy is interrupted or labour is likely to be complicated. These same disturbances result if the uterus is fixed with silkworm gut. The author cites a case of labour following ventrofixation. The uterus was in a position of decided anteflexion, the cervix high and directed posteriorly; in spite of strong pains no dilatation. Only after the adhesions were ruptured and a version was performed could progress be noted. In a second case the uterus was sutured to the vagina with silkworm gut; marked disturbances occurred in the third month of gestation, which disappeared immediately upon the removal of the retaining sutures. The uterus which is lifted from the peritoneal cavity and fixed to the vagina is apt to relapse to its old position. This forcible withdrawal of the uterus from its anatomical position may also cause severe hæmorrhage from the tearing of the ovarian arteries or their branches. A kinking of the Fallopian tubes with subsequent sterility has also been observed. These complications may be avoided by fixing the uterus in an improved position by a complete obliteration of the excavatio vesico-uterina. To do this the bladder must be separated from the peritoneum well above the plica. Next the antero-uterine pouch is obliterated by continuous catgut sutures. This method of operation fixes the uterus by peritoneal adhesions, which stretch if pregnancy ensues, to again contract during the puerperium.

The Treatment of Gonorrhœal Disease of the Uterine Appendages and the Pelvic Peritoneum.—Lebedeff treated five cases of gonorrhœal pelvic and tubal disease by intra-uterine injections of an alcoholic solution of alumnol mixed with a solution of iodine and alcohol (alumnol 2·5 grammes, solution of iodine and alcohol 25 grammes each). The injections were made with Braun's syringe. His conclusions were that (1) the treatment decidedly shortened the acute inflammatory stage of the disease, lowered the temperature, and lessened the pain; (2) it accelerated the absorption of inflammatory exudations; (3) the symptoms of endometritis became markedly less; purulent discharge changed to a mucous one; gonococci disappeared; hæmorrhage ceased.

Pelzer's Method of inducing Labour.—Dr. B. M. Hypes (*American Jour. of Obstetrics*, Dec., 1895) has collected five published cases of poisoning by Pelzer's method of inducing labour by intra-uterine glycerine injection. In all these cases inflammation of the kidneys was a prominent symptom, and he quotes Mikulicz as saying that "glycerine can induce poisoning when injected into any absorbing tissues or cavities, and he has observed hæmoglobinuria accompanied by methemoglobin appear in several cases in from twelve to twenty-four hours after such injections. In one case, after curetting two periarticular abscesses of the hip in a four-year-old boy, sixty grammes of iodoform glycerine were injected, followed by serious hæmoglobinuria and death in four days.

In summing up, Dr. Hypes says:—Intra-uterine injections are often inefficient, especially so in doses under fifty cubic centimetres. They are liable to be followed by all the ill effects—shock, air embolism, thrombosis, metritis, and sepsis—of other intra-uterine douches which have been used and abandoned during the present century. They may and sometimes do produce glycerine poisoning—*i.e.*, decomposition of the blood corpuscles—resulting in diseases of various organs, but more especially in nephritis with hæmoglobinuria.

The method takes no consideration of the life of the child, and hence results in great fœtal mortality. Its use should be abandoned or the dosage reduced, especially in subjects with prior existing kidney affections.

The X Rays in Midwifery.—Pinard (*Bull. de l'Acad. de Méd.*, No. 10, 1896) reported, as the first intra-uterine use of Röntgen's rays, an experiment carried out by Varnier on the uterus of a woman who died in the third month of pregnancy. The fœtal image developed in a satisfactory manner, and there is no doubt that this valuable discovery will eventually prove as useful in diagnosticating altered conditions of the pelvic viscera as it already has in general surgery.

ASSOCIATION FRANÇAISE DE CHIRURGIE.

Le 10e Congrès de l'Association française de Chirurgie s'ouvrira à Paris, à la Faculté de Médecine, le Lundi, 19 Octobre, 1896, sous la présidence de M. le Professeur Terrier, Membre de l'Académie de Médecine. La Séance solennelle d'inauguration du Congrès aura lieu à 2 heures. Deux questions ont été mises à l'ordre du jour du Congrès. 1° Thérapeutique chirurgicale des pieds bots. M. Forgue, de Montpellier, rapporteur. 2° Traitement des prolapsus génitaux. M. Bouilly, de Paris, rapporteur. MM. les Membres de l'Association sont priés d'envoyer, pour le 15 Août au plus tard, le titre et les conclusions de leurs communications, à M. Lucien Picqué, Secrétaire général, rue de l'Isly, 8, Paris. Pour tous renseignements consernant le Congrès, s'adresser au Secrétaire général.

SCROTAL PRURITUS.

M. Brocq (*La Revue Médicale*) prescribes the following solution for scrotal pruritus:—Phenol, 20 grammes; glycerine, 75 grammes; alcohol, 25 grammes; water, 300 grammes. Make a mixture with one part of this solution and four parts of very hot water; wet a piece of muslin, folded into ten layers, with the mixture and apply it to the scrotum, covering the muslin with a layer of gutta-percha tissue.

NEURALGIA.

The following local application for intercostal neuralgia is recommended by Dr. S. Solis Cohen:—Menthol, chloral hydrate and camphor, of each equal parts. To be painted on the painful part once daily.—*The Philadelphia Polyclinico.*

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—JAMES LITTLE, M.D., F.R.C.P.I.

General Secretary—WILLIAM THOMSON, F.R.C.S.I.

SECTION OF STATE MEDICINE

President—J. M. REDMOND, M.D.

Sectional Secretary—NINIAN FALKINER.

Friday, February 7, 1896.

The PRESIDENT in the Chair.

The President's Address.

The **PRESIDENT**, in his Address, dealt with the causes of crime and the treatment of criminals. Criminal statistics, published since 1877, showed a great and gradual falling off in the number of convictions in England, Wales, and Ireland, but the diminution was not so marked in the case of Scotland. He attributed this change for the better to education and the improvement in the condition under which the bulk of the working classes live. Legislation which made minor offences, such as the following (extract from a Hong Kong newspaper)—"For State-created crime Hong Kong might easily take first place. A singing girl is sent for to attend an entertainment in the evening at a house in the same street as that in which she lives, but on the opposite side and a little lower down. She sets out to cross the street in an oblique direction, and is at once pounced on by a ferocious minion of the law and haled to the police station because she has not provided herself with a lantern"—must be condemned owing to the danger of corrupting the innocent by causing them to associate with habitual criminals. He calculated that the annual expenditure in criminal justice and administration—prisons, asylums, reformatories, &c., &c.—reached annually an enormous sum, which constituted a tremendous drain on the resources of the State. Having passed in review the views of medical writers on the subject of insanity and inherited crime, he stated that the treatment of crime must come more and more under the jurisdiction of the medical profession, as modern science shows how much crime is due to hereditary causes, and modern philosophy how much crime is the consequence of unhealthy surroundings.

Dr. Grimshaw said he was well aware that it was not customary to make the subject of an Address the ground of a discussion. He thought it would be best to receive the statements of the President as *ex cathedra* statements. He (Dr. Grimshaw) did not rise to open a discussion but to move a vote of thanks to the President. Perhaps, he said, he should be at the Statistical and Social Inquiry Society, which, at the time he was speaking, was holding its meeting. As he could not be in two places at the same time, he was not sorry that he had come to hear the able Address of the President of the Section of State Medicine. To him (Dr. Grimshaw) the paper had a peculiar interest, for it was his duty to draw up and arrange the criminal statistics of Ireland. It might be thought by some that the paper was not one which ought to be read to a medical association; but he (Dr. Grimshaw) was of quite a different opinion—indeed, he believed the subject dealt with in it was a subject of great importance to medical men. There was a large amount of crime in this country which might well receive the attention of members of the medical profession. For instance, the increasing numbers of crimes arising out of drink, and drunkenness itself, were matters that deeply concerned the medical profession. As to the hereditary tendency in drunkards, he thought the desire for drink amongst many persons could be explained on grounds other than heredity. In some people there is a want of tone in the constitution—a looseness of the nervous system, which instinctively impels them to have recourse to alcoholic stimulants; the indulgence grows until they become confirmed drunkards. The weakmindedness of other individuals rendered them incapable of resisting the desire for drink when once it had been created. Many of our social habits, too, fostered the vice. Association of young people with others addicted to drink was also a fact not to be forgotten. The number of convictions at the police courts was some test—though not an absolutely true test—of the extent to which drunkenness prevailed in a country. He was convinced that medical practitioners, exercising so large an amount of control as they did over the bodily and mental health of the community, could be a power in preventing drunkenness. A suggestion such as this had been offered in the President's Address, and he (Dr. Grimshaw) thought it an admirable one. There was another point to which he wished to refer. It was this: the law itself often created crime; and he could give no better proof or illustration of this statement than the case of the Hong Kong girl referred to in the address. He insisted on the importance of preserving a proportion between the gravity of the crime committed and its punishment. Offences against the sanitary laws he would not regard as crimes—at least in the sense in which that term was applied when speaking of robbery and murder. In regard to the cost of crime, the expenses incurred in the maintenance of reformatories should not, in his (Dr. Grimshaw's) opinion, be included. Their purpose is mainly to prevent crime, and the prevention of crime is better than its punishment. He might remark that, with the growth of industrial schools, there was a diminution in the number of boys and girls sent to reformatories. As regards crime in general, he (Dr. Grimshaw) thought that too much importance had been placed on the question of heredity. On the question of temperance, he referred to a letter in the *Times* that was calculated to mislead. He expressed a wish to see medical men attending the meetings of the Social Statistical Society. He moved a vote of thanks to the President for his interesting and able paper.

Dr. Cox seconded the vote of thanks, and said that the President's paper was a most interesting and able one. As to the questions raised in that paper, the medical profession ignored them too much, and the public suffered thereby. He adverted to a class of crimes that might be punished sufficiently by compelling the offender to give compensation to the injured party. He referred to the disparity that was at times to be found between a crime and its punishment, and, going back to sheep-stealing times, related some amusing anecdotes to illustrate his meaning. He suggested that if the President's address were printed it would have an influence on the minds of legislators.

The President thanked the Section for the manner in which his Address was received, but thought the praises bestowed on it were out of proportion to its merits.

The Section then adjourned.

SECTION OF SURGERY.

President—Sir Thornley Stoker, President of the Royal College of Surgeons in Ireland.

Sectional Secretary—Kendal Franks, F.R.C.S.I.

Friday, Feb. 21, 1896.

The President in the Chair.

Exhibits.

In reference to a case of ligature of the second stage of the subclavian artery exhibited by Mr. Croly, **Dr. Cranny** asked why the artery was ligatured in the second stage.

Prof. Bennett inquired whether or not the wound was healed.

Prof. Fraser asked what was the nature of the ligature.

Surgeon-Major Daly wished to know whether the patient was a soldier, and whether he had syphilis.

Mr. Croly said he tied in the second stage because he could not tie the artery in its third stage, which was involved in the aneurysm. The wound had healed, but re-opened slightly, probably owing to a small ligature. The ligature was one of goldbeater's skin, steeped in a solution of perchloride of mercury, and warmed in a 20 per cent. solution of carbolic acid. He could not trace a history of syphilis.

Prof. Cunningham exhibited a series of casts which had been taken from living lepers in the Lazaret of New South Wales. They had been sent to him by Professor Anderson Stuart, of the University of Sydney. Two of the casts were taken from patients suffering from lepra tuberosa; the others from typical cases of lepra nervosa. Professor Cunningham read abstracts from the Parliamentary Report, which showed that the Government of New South Wales was taking energetic measures to stamp out the disease, and concluded by referring to the announcement which had been made that week to the effect that Professor Kitasato had discovered the bacillus of leprosy, and that it was capable of cure by inoculation.

Mr. Dallas Pratt said he had seen 300 cases of leprosy in Norway. On the question of infection, he thought a person could contract leprosy after a long residence, say five years, in a place where the disease existed. He quoted authority in support of this view. He dwelt on marriage as a means of propagating the affection. As to the question of amputation, Dr. Bergmann told him at Molde that amputation was of no use. Prof. Cunningham had stated, that though the wounds thus inflicted heal, they afterwards break out. He did not believe that drugs were of much use in the treatment of leprosy.

Prof. McWeeney said he met Prof. Kitasato in Berlin in 1892. He believed that leprosy was due to a bacillus, and he, the speaker, concurred. He had made pathological examination in Dr. O'Carroll's case. He had no difficulty in discovering enormous masses of bacilli. He also found cells analogous to tubercle cells. He agreed with Professor Kitasato when the latter expressed the opinion that he saw no reason why leprosy should not be curable by the antitoxin or serum treatment.

Prof. Fraser made a few remarks of a historical character with reference to leprosy in Ireland.

Mr. Robert Cox observed that leprosy was unknown amongst Europeans and foreigners living in China.

Surgeon-Major Daly had never seen a case of leprosy among the officers and men in India.

Brigade-Surgeon Potter advocated the use of gurjun oil.

Prof. Cunningham replied.

A New Method of Localising Brain-lesions.

Mr. Robert Cox read a paper on "A New Method for Localising Brain-lesions," and exhibited the necessary apparatus for its employment. He pointed out that there was need for a more perfect method of locating the important areas of the cerebral cortex on the overlying surface of the scalp, seeing that most, if not all, the methods generally employed are either limited in their scope, or complicated in their application, while many give rise to error by the use of a standard measure—the inch or the centimeter for varying surfaces. He thought the method which he was about to describe would be found devoid of these objections. For its use two things were necessary—(*a*) an instrument which he had invented and called a cerebro-graphometer, and (*b*) a diagrammatic map of a hemisphere of the brain, prepared from readings made by the use of the same instrument on the cadaver and casts of the brain *in situ*. This map might be substituted, or augmented, by a list of indices made in the same way. The instrument consists entirely of the mechanical device, technically known as "lazy-tongs," formed into a circle with two accessory loops, which latter are attached to the circle by their ends in such a way that they arch over it at right angles to each other. One loop bears the numerals, beginning at each end with 1 and ending in the middle with 10; while the other loop has the letters A and V in consecutive order from before backwards. That bearing T forming the junction with the circle behind.

The map is made on a gnomonic projection, with the radii or longitudinal lines marked by letters, and the semicircles or lines of latitude by numerals.

In using the instrument it is necessary to extend it in all parts, and apply it to the head with the rivet, forming the junction of the lettered loop with the circle in front; on the glabella and the rivet-marked V, at the other end, to the occipital protuberance; then press down the loop between these two points in the middle line, and close the circle round the head on such a plane that the numeral 10 will rest on the lettered band. The instrument is then in position, when, to find any given point—say Broca's lobe—it is only necessary to consult the map or list of indices for the bearings, there given as "C4, left side," and place the 10 of the numbered loop on the C of the lettered loop, when the numeral 4 will lie over the part.

Having thus shown the simplicity of the method, for the carrying out of which no recourse need be had to any science, and the almost automatic action of the cerebro-graphometer, he proceeded to explain its accuracy, showing that it was applicable to all sized heads, and formed its own unit of measurement for each, thus eliminating the errors due to the use of a standard measure for a varying surface. The two fixed points taken, the gabella and the occipital protuberance, place the circle on that plane considered so important by Prof. Fraser as bearing a fixed relation to all important parts of the brain.

His opportunities of testing its accuracy were very few, but in those it gave excellent results, while, with regard to Rolando's fissure, perfection seemed to have been reached.

In conclusion, he added that the instrument was simple, compact, durable, and capable of being rendered aseptic by boiling.

Messrs. Arnold & Sons are the makers.

The President said he had examined this ingenious instrument already; it would doubtless prove of value to surgeons in mapping out the regions of the brain for operative purposes.

Prof. Cunningham said that, from the point of view of the anatomist, the instrument had an interest for him. He contrasted it with an instrument invented by Prof. Aredy, of Moscow, to the advantage of the former. He was glad that a gentleman who had studied in Dublin had invented such an instrument.

Prof. Fraser expressed a high opinion of the instrument.

Dr. Heuston had tested the instrument by the results of several experiments. Operating surgeons would come to look on this instrument as one of practical value.

Mr. Cox, in reply, said the instrument was yet in an incomplete state.

Cancer of the Breast.

Mr. William Thomson read a paper on cancer of the breast. He discussed the question of the curability of cancer of the breast by operation, and shortly detailed the advances which had been made in the thoroughness of operative procedure. He had shown a case within the past three months from which he removed an undoubted scirrhus seven years ago, and he had seen another some years since in which six years had elapsed without any sign of return. Two others are at present living two and a half years after operation; there was no indication of reappearance of disease. He advocated complete clearing of the axilla, of the fascia, and removal of portion of the pectoral muscles if these were at all suspected. He believed that cancer was curable in a fair percentage of cases when operation was early and thorough. He expressed his belief that cancer was a local disease, afterwards infecting the whole body; that infection, however, being delayed by the line of defence provided by the lymphatic glands. He admitted that in some instances a line of heredity in cancerous patients provided a condition in which cancer, beginning locally, was likely to spread with greater rapidity.

The President said, until he had commenced to operate he had not accurate ideas as to the areas covered by the breast—an area more extensive than anatomists commonly supposed. It extended inwards as far as the edge of the sternum, and upwards as high as the clavicle. It was amongst the poorer classes that desperate diseases of the breast were usually met with. Personally he took a very optimistic view of properly performed operations for cancer of the breast; but of nothing was he more sure than that if some of those operations were properly performed, others were shockingly botched. Some people made too light of operations on the breast, and the results arising from their temerity in this respect were truly shocking. Removal of the breast was of itself a comparatively easy operation; it might be undertaken by anyone with a moderate amount of skill and experience; but dissecting out the axilla, or lower triangle of the neck, was a critical operation, and one that was very frequently incompletely performed. Operation on the mammary gland for cancer held out a prospect of radical cure. In the matter of sutures he expressed a predilection in favour of silk sutures.

Mr. Nixon said that every surgeon of experience would agree with the views expressed in Mr. Thomson's paper. The necessity for early operation in every suspicious case should be insisted on. An essential element in the operation was that of keeping wide of the disease. He gave the history of a case he had operated on. For the seven and a half years during which she lived after the operation, there was no manifestation of a recurrence. A microscopic examination of the breast put it beyond doubt that the disease was scirrhus.

Prof. Bennett said there was one point that required careful attention—that was, the necessity of endeavouring to discriminate between the cancers of the breast. Mr. Thomson had not dealt with the subject of diagnosis. He mentioned the case of a woman who suffered for twenty-three years from atrophic cancer, and ultimately died of sheer old age. It was an important question for the surgeon whether or not he was dealing with a case of atrophic cancer. He would offer a word of caution against operating in a case of atrophic cancer, as the patient will live longer if the disease is not subjected to operative interference.

Mr. Lentaigne was of opinion that on the question of operation for atrophic cancer, Prof. Bennett erred on the side of over-caution. When cancer was left alone the result at best was a foul ulcer—a consideration, he thought, in favour of operation. He agreed with Mr. Thomson as to the undoubted and increasing immunity enjoyed by some patients after operation. Amongst others, he could produce one patient who was operated on for a rapidly-growing cancer seven and a half years ago. There was no recrudescence of the disease, and she was now well. She had had two children, both of whom were suckled at the remaining breast. A microscopic examination testified to the cancerous nature of the growth, He dwelt on the influence of locality as a cause of cancer. He instanced three cases of cancer that came from the same house, the inmates of which altogether numbered only eight. He believed this house and its environments were infected with cancerous virus. He now usually performed Halstead's operation, and removed the pectoralis muscles in severe cases. Contrary to what might be expected, removal of these muscles was not followed by much loss of power of the arm. Indeed, he thought there was often greater power and mobility than when those muscles were not removed in the operation. In the latter case the formation of adhesions often rendered the muscles useless.

Mr. Franks said the risk to which the patient was exposed by letting the disease take its own course was greater than that incurred by operation. He took a favourable view of operations. The good results of operations nowadays were due to the fact that these operations were more extensive than those performed formerly. He pointed out the necessity of keeping wide of the disease and clearing out the axillary glands. He spoke favourably of Styles' nitric acid method of determining gland tissue. Binding the arm to the side to produce absolute rest was, in his opinion, an absolute mistake.

Prof. McWeeney had tried Styles' method at Mr. Lentaigne's suggestion, and he spoke favourably of it.

Dr. Alfred Smith said one of the cases mentioned by Mr. Lentaigne as cured of cancer of the breast for over six years, he knew very well. She was a patient of his; he attended her at all her confinements; she nursed her children on the right breast. There was no redness or congestion in the cicatrix of the removed breast. He congratulated Mr. Lentaigne on his fine result.

Dr. Doyle protested against the indiscriminate way in which cancers of the breast were spoken of. He agreed with much that Prof. Bennett had said. He insisted on the necessity of taking every precaution in order to diagnosticate between an atrophic and an ordinary progressive carcinoma. Instead of operating hastily, four to six weeks should be allowed to elapse before coming to a conclusion. Many tumours of the breast, put in the category of cancer, were not cancerous in their nature at all. He supported this statement by the history of two cases that came under his care. These ladies were occasioned great anguish by reason of having been told that they had cancer. He, Dr. Doyle, satisfied himself that the disease in each case was simple enlargement of the gland. Many of the so-called cures of cancer were not cures at all.

Mr. T. E. Gordon said, on the inner side of the breast a chain of lymphatics accompanies the internal mammary artery. Did he (Mr. Thomson) find those glands enlarged *post mortem*.

Mr. Thomson, in reply, said he was glad that his paper was the means of eliciting an opinion which he already knew was held by Dublin surgeons—namely, that operation for cancer of the breast is a proper proceeding. It should, however, be recollected that there was a section of the profession which did not assent to this opinion; and, indeed, that in itself was a reason why he was happy to have afforded the Surgical Section of the Academy an opportunity of formally expressing its views. Professor Bennett observed that he (Mr. Thomson) had not dealt with the question of diagnosis. That was true; but that question was too large and complex to be dealt with in a paper like that which he had read. In reference to atrophic cancer, perhaps one would not be strongly inclined to operate if he was quite sure of it. But given a lump in the breast, Professor Bennett or Mr. Doyle had said nothing which would enable the surgeon to determine whether it was an atrophic cancer or not. He dwelt on Mr. Doyle's view of waiting four to six weeks, and pointed out that with the growth of the tumour there occurs increasing vascularity, and therefore increasing danger of infection; so that the sooner the surgeon acted the better for the patient. Even experienced surgeons saw only few cases of atrophic cancer. Looking back over a period of twenty years that he had been an hospital surgeon, he could count the number of cases of atrophic cancer he had met with on the fingers of one hand. To him (Mr. Thomson) Mr. Doyle's argument seemed to be that, because there was this possible thing called atrophic cancer, therefore no operation in cases of breast tumours was justifiable. For his own part, he would rather think he had operated on five atrophic cancers than that he had left twenty scirrhous cancers untouched. In reply to Mr. Gordon, he said his (Mr. Thomson's) experience of these cases *post-mortem* was not extensive, but his impression was that the infection of the lymphatics passing into the thorax depended very much on the position of the tumour itself. The deeper it was the more likely the thoracic lymphathics were to become infected. On the other hand, the more superficial and external the origin of the tumour, the greater the probability was that infection would extend into the axilla. He thought Mr. Gordon's point deserved the attention of the surgeons.

The Section then adjourned.

SECTION OF OBSTETRICS.

President—LOMBE ATTHILL, M.D.

Sectional Secretary—DR. F. W. KIDD, M.D.

Friday, March 6, 1896.

The PRESIDENT in the Chair.

Case of Ruptured Tubal Pregnancy, with Hæmatocele of opposite side.

DR. ALFRED SMITH read notes of an interesting case on the above subject, successfully operated on by him in St. Vincent's Hospital. The chief points of interest seemed to him to be—1st. The question of diagnosis; 2nd. The pathological condition found during operation. There was no history of pregnancy; the menstruation was quite regular up to the very day when she was first seized with the abdominal pain and heavy menstrual flow. The pain was referred to the lower part of the abdomen, but was not so severe as to cause the patient to collapse. She was able to walk to hospital without assistance; still, on vaginal examination, nearly all the typical signs of ruptured tubal pregnancy were present. The pathological condition found at operation showed the condition on the right side to be an example of "tubal abortion." As to the cyst on the left side, its exact nature was not so clear—it was undoubtedly full of blood and seemed to be in the outer third of the Fallopian tube, and had certainly all the microscopic appearances of a tubal pregnancy. But the microscopic examination by Professor M'Weeney proved it to be not a case of tubal pregnancy but an hæmatosalpinx. The interesting query now is how to explain the hæmorrhage into the outer third of the Fallopian tube.

PROF. MCWEENEY said the dilatation on the left side resembled a case of tubal pregnancy. There were, however, a few points of difference: the walls in this case were thinner than they would be in a case of pregnancy, neither were they coated to the same extent with blood clot. If the contents consisted of clear serous fluid, he (Prof. M'Weeney) would have but little hesitation in describing the case as one of hydrocele. He found pus cells in the walls, from which he inferred that the tumour was inflammatory in its origin.

DR. HORNE thought an interesting point in connection with the case was that the woman had borne four children, and that only two and a half years had elapsed from the time of her last pregnancy. In this case there was no question of sterility—a circumstance so commonly associated with tubal pregnancy. Dr. Smith admitted that with a quantity of blood and serum something like a small fœtus escaped from the cavity; perhaps it actually was a fœtus.

Dr. Tweedy thought that it might have been possible that pregnancy had occurred in both tubes, and that on the left side bleeding occurred, the fœtus thus getting surrounded with blood. The tube wall was thin, because there was not sufficient time for it to become hypertrophied. The absence of chorionic villi, he suggested, might be accounted for by the length of time that elapsed from the death of the fœtus. As to treatment, he would ask Dr. Smith whether he would open in every case of hæmatocele, or were there cases when it would be better to put in bed for three months. In his line of treatment was Dr. Smith guided by circumstances? If so, he (Dr. Tweedy) was anxious to know them.

The **President** said that the fact that Prof. M'Weeney* found pus-cells in the wall of the cyst showed that prior to tubal pregnancy on the right side there was chronic inflammatory disease of the left side. Under any circumstances he would operate in a case of tubal pregnancy. He mentioned the case of a lady who, after the lapse of twenty years, was expelling fœtal bones from her vagina. He (the President) could not assent to Dr. Smith's opinion as to the superiority of phenacetin over morphin.

Dr. A. Smith—With reference to Dr. Horne's remarks, he (Dr. Smith) did not attach importance to what Dr. Horne seemed to think might have been the fœtus. As it came away he was under the impression that it was a piece of coagulated albumen. In answer to Dr. Tweedy, he said that whenever he diagnosticated a hæmatocele and formed the opinion that that hæmatocele was due to tubal pregnancy, he operated at once, and did not wait for septic symptoms to arise. There was danger in delay, for septic suppuration might occur at any moment, all the conditions favourable to the development of sepsis being present in these cases. He extolled the virtues of phenacetin, insisting on its superiority over morphin, notwithstanding the President's praise of morphin. He looked upon morphin as a most dangerous drug in abdominal sections. He administered phenacetin in 10 gr. doses.

Specimens.

Dr. Alfred Smith showed a small cystic ovary, size of a turkey egg, removed from a married woman, aged thirty-eight. The patient suffered from hæmorrhagia, which was not controlled by repeated curettings. Recovery.

Dr. Jellett showed the following for Dr. W. J. Smyly:—

Four myomatous uteri removed by panhysterectomy.—Two were soft, uninodular myomata, and had been removed by abdominal section; the other two per vaginam, by morcellation. One of these, a small uterus the size of a fœtal head, had been operated upon that morning; the other, a fortnight previous. The operation in the latter case was undertaken on account of cancer of the mucous membrane, and proved unusually difficult and tedious, not only on account of the large size of the tumour, which reached to the umbilicus, but also on account of an intra-ligamentous outgrowth on the left side, which was as large as an adult fist, and a large subperitoneal tumour on the posterior aspect of the uterus caused the organ to rotate as it was drawn downwards, which proved a very embarrasing complication. The first case, operated upon on 14th of February, had gone out well. The second, abdominal hysterectomy, had an attack of peritonitis, but was progressing favourably, and the other two were doing well.

A uterus removed for procidentia.—The great size of the uterus, due to supra-vaginal elongation, rendered treatment by pessaries impossible, and the total removal of the organ was considered a more simple procedure than amputation of the cervix and lower uterine segment, combined with vaginal fixation of the fundus.

A large papillomatous cyst removed from the right mesocolon.—Patient recovered.

Tubes removed for double pyosalpinx.—The patient, aged fifty, had been an invalid for twenty-five years, from recurrent attacks of pelvic peritonitis, with discharge of pus. The uterus was displaced to the left, retroverted, and fixed by adhesions; the left tube in front formed a tumour as large as an adult fist; another tumour, posterior and to the right, was as large as a fœtal head. Operation January 3rd. The left tube was in front and was twisted three times, so that when freed from adhesions the mesosalpinx formed a narrow pedicle, which was transfixed and tied with a Staffordshire knot. Great difficulty was found in exposing the right tube, owing to firm intestinal adhesions in front of it. A large cyst of the broad ligament ruptured and extravasated a quantity of brownish fluid. The tube also ruptured and extravasated a quantity of pus, but was successfully removed; the abdomen was drained with gauze, and the patient made an uneventful recovery.

Tubercular tubes as large as adult fists.—Upon opening the abdomen general tubercular peritonitis was discovered, the tubes were removed, and the abdomen drained; recovery good. She had also a femoral hernia, which was subsequently successfully operated upon by Dr. Jellett.

Tubercular tubes.—The tubes, which were of small size, had been successfully removed; the peritoneum was healthy.

Hæmatosalpinx.—The specimen was probably a tubal pregnancy, but no trace of an ovum had been discovered. The patient, aged twenty-five, had two children; the younger, seventeen months old, was nursed fifteen months. After weaning this child hæmorrhage set in and continued for two months, at last becoming so severe that she came into hospital. On admission she was weaker and anæmic, and complained of want of appetite and difficulty in micturition. The uterus was inclined backwards and pushed over to the left by a soft tumour on the right side, evidently a distended tube. Abdominal section January 22, 1896. The right tube was found enlarged and universally adherent; it ruptured during enucleation and evacuated a quantity of dark fluid blood and clots. The patient made a good recovery.

Tubal pregnancy.—The patient from whom the specimen had been removed was twenty-eight years of age; had one child thirteen months old. Pain and hæmorrhage set in on January 27, and she came into hospital. The uterus was large and soft, normal in position and freely movable; tumour size of an orange, posterior and to the right; uterus curetted, and thick decidua removed; anterior vaginal colpotomy. On opening the peritoneum dark fluid blood and clots escaped; uterus drawn forwards with bullet forceps; right tube, which was distended with clots and ruptured on the posterior aspect, removed, together with the corresponding ovary; pelvis carefully sponged out; uterus returned and stitched to vaginal wound, which was closed with continuous catgut suture. Fever set in on fourth day, but caused little anxiety until the morning of the sixth, when the patient suddenly became collapsed. Upon opening the abdomen a quantity of reddish fluid escaped; severe pelvic peritonitis; intestines bright red, distended, and adherent. One coil which was firmly attached to the uterus was gangrenous. Uterus had separated from vaginal wound and had fallen backwards, and the latter appeared sloughy and unhealthy. Six inches of the gangrenous portion of intestine was removed, the canal being restored by Senn's bone plates. The pelvic cavity carefully sponged out, the vaginal wound cleansed and dusted with boric acid, the uterus replaced, a gauze-bag placed in the pelvis, which was carefully plugged so as to separate this cavity from the general peritoneum. The bag was removed on the third day. There has been a copious discharge from the vaginal and uterine wounds, with some fever for the past three weeks, but the patient is slowly recovering.

Case of Suppuration in an Ovary, the result of direct violence, with Specimen.

The Hon. Secretary read, for Dr. Purefoy, a paper on the above subject.

When we have regard to the anatomical structure and marvellous functional activity of the ovaries in a healthy woman, and how easily the regular performance of these functions is disturbed even by trifling emotional causes, no surprise will be felt at the frequent occurrence of disease in these organs. It will, I think, be admitted that even acute inflammation of an ovary seldom terminates in suppuration, except in cases of puerperal sepsis, and also in cases where gonorrhœal vaginitis has been the origin of the mischief. The view has been advanced that in some cases of protracted and difficult labour the ovary may be subjected to injurious pressure, and most of us have seen patients who could trace back to some particular lying-in the beginning of the pain and suffering which so often attend chronic ovaritis. The brief history which I proceed to lay before you will serve to demonstrate that mechanical pressure, if considerable in degree and suddenly applied, may bring about inflammatory mischief in an ovary, and such as may end in suppuration and the structural disintegration of the organ.

In February, 1896, a young woman, aged twenty-one, in good condition and of healthy aspect, sought my advice for various pelvic and menstrual troubles, and gave me the following history:—She had been earning her bread as a governess, and in October, 1891, one of the children in her charge jumped on her as she lay in bed, hurting her considerably with her feet, and causing her much pain in the left ovarian region, and in the left leg. Immediately afterwards she became unwell for some days, and during the succeeding four years, till she came under my care, menstruation continued profuse, irregular, and attended with so much pain in the lower belly and left leg that much impairment of her general health ensued. For the relief of these troubles she was sent home by my friend, Dr. Wynne.

A vaginal examination enabled me to detect an enlarged and much-retroverted uterus, and the left ovary enlarged, very sensitive to pressure, and somewhat prolapsed. The right ovary appeared to be normal and healthy. I explained to her that nothing save the removal of the injured organ would ensure any permanent relief to her sufferings, and she readily consented, and shortly afterwards was admitted to the Adelaide Hospital for the purpose. The operation was followed by an easy convalescence, and menstruation now recurs regularly without pain and normal in amount, though for some months the patient complained occasionally of rather severe pain in the left side and left leg.

The PRESIDENT regretted very much that they had not before them the report of a pathologist on Dr. Purefoy's case, as suppuration of the ovary was a very rare occurrence indeed.

The Section then adjourned.

SANITARY AND METEOROLOGICAL NOTES.

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Vital Statistics

For four Weeks ending Saturday, July 11, 1896.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000:—

Towns	Weeks ending				Towns	Weeks ending			
	June 20.	June 27.	July 4.	July 11.		June 20.	June 27.	July 4.	July 11.
Armagh -	21·0	35·1	28·0	7·0	Limerick -	12·6	23·9	25·8	18·2
Belfast -	27·6	27·3	21·8	24·8	Lisburn -	17·0	17·0	8·5	29·8
Cork -	15·2	15·2	21·5	20·1	Londonderry	18·8	26·7	29·8	29·8
Drogheda -	30·7	18·2	4·4	8·8	Lurgan -	27·4	4·6	9·1	18·7
Dublin -	21·8	25·2	25·5	24·0	Newry -	12·1	16·1	28·2	4·0
Dundalk -	12·6	12·6	25·1	12·6	Sligo -	5·1	45·7	15·2	10·2
Galway -	45·3	22·7	26·4	15·1	Waterford -	20·0	27·5	25·0	22·5
Kilkenny -	23·6	4·7	9·4	4·7	Wexford -	4·5	18·1	4·5	31·6

In the week ending Saturday, June 20, 1896, the mortality in thirty-three large English towns, including London (in which the rate was 16·2), was equal to an average annual death-rate of 17·3 per 1,000 persons living. The average rate for eight principal towns of Scotland was 18·9 per 1,000. In Glasgow the rate was 20·3. In Edinburgh it was 15·6.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 22·3 per 1,000 of the population, which, for the purposes of this Return, is estimated at 908,567.

The deaths from the principal zymotic diseases in the sixteen

districts were equal to an annual rate of 3·1 per 1,000, the rates varying from 0·0 in eleven of the districts to 6·3 in Londonderry—the 12 deaths from all causes registered in that district comprising 3 from measles and 1 from diphtheria. Among the 147 deaths from all causes registered in Belfast are 5 from measles, 8 from scarlatina, 1 from typhus, 6 from whooping-cough, 2 from diphtheria, 2 from simple continued fever, 1 from enteric fever, and 5 from diarrhœa. The Registrar for Waterford No. 1 District remarks that the deaths in his District include that of one person aged 100 years.

In the Dublin Registration District the registered births amounted to 247—135 boys and 112 girls; and the registered deaths to 151—76 males and 75 females.

The deaths, which are 2 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 22·5 in every 1,000 of the population. Omitting the deaths (numbering 5) of persons admitted into public institutions from localities outside the district, the rate was 21·8 per 1,000. During the first twenty-five weeks of the current year the death-rate averaged 24·2, and was 5·3 under the mean rate in the corresponding period of the ten years 1886–1895.

Twenty-five deaths from zymotic diseases were registered, being 12 over the low number for each of the two weeks preceding, and 7 over the average for the 25th week of the last ten years. They comprise 4 from scarlet fever (scarlatina), 2 from influenza and its complications, 5 from whooping-cough, 3 from enteric fever, 6 from diarrhœa, and 1 from erysipelas.

Only 6 cases of enteric fever were admitted to hospital, being 1 under the admissions in the preceding week, and 9 under the number in the week ended June 6. Seven enteric fever patients were discharged, and 46 remained under treatment on Saturday, being 1 under the number in hospital at the close of the preceding week.

Thirty-five cases of scarlatina were admitted to hospital, being 2 over the admissions in the preceding week, but 5 under the number in the week ended June 6. Thirty-four patients were discharged, 1 died, and 190 remained under treatment on Saturday, being equal to the number in hospital at the close of the preceding week.

The number of deaths from diseases of the respiratory system registered was 21, being 5 below the average for the corresponding week of the last ten years, and 9 under the number for the previous week. The 21 deaths comprise 13 from bronchitis and 6 from pneumonia or inflammation of the lungs.

In the week ending Saturday, June 27, the mortality in thirty-three large English towns, including London (in which the rate was 16·1), was equal to an average annual death-rate of 16·9 per 1,000 persons living. The average rate for eight principal towns of Scotland was 17·1 per 1,000. In Glasgow the rate was 18·6, and in Edinburgh it was 14·5.

The average annual death-rate in the sixteen principal town districts of Ireland was 24·2 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 3·0 per 1,000, the rates varying from 0·0 in eleven of the districts to 11·0 in Londonderry—the 17 deaths from all causes registered in that district comprising 6 from measles and 1 from diphtheria. Among the 145 deaths from all causes registered in Belfast are 10 from measles, 4 from scarlatina, 1 from typhus, 8 from whooping-cough, 1 from enteric fever, and 6 from diarrhœa.

In the Dublin Registration District the registered births amounted to 208—87 boys and 121 girls; and the registered deaths to 171—92 males and 79 females.

The deaths, which are 8 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 25·5 in every 1,000 of the population. Omitting the deaths (numbering 2) of persons admitted into public institutions from localities outside the district, the rate was 25·2 per 1,000. During the first twenty-six weeks of the current year the death-rate averaged 24·3, and was 5·0 under the mean rate in the corresponding period of the ten years 1886-1895.

The number of deaths from zymotic diseases registered was 20, being 5 under the number in the preceding week, and 3 below the average for the 26th week of the last ten years. The 20 deaths comprise 1 from scarlet fever (scarlatina), 2 from influenza and its complications, 2 from whooping-cough, 1 from ill-defined fever and 10 from diarrhœa.

Nine cases of enteric fever were admitted to hospital, being 3 in excess of the admissions in the preceding week, and 2 over the number admitted in the week ended June 13, but 6 under the number for the week ended June 6. Six enteric fever patients were discharged, and 49 remained under treatment on Saturday, being 3 over the number in hospital at the close of the preceding week.

The cases of scarlatina admitted to hospital during the week amounted to 50, or 15 over the admissions in the preceding week; 28 patients were discharged, and 212 remained under treatment on Saturday, being 22 over the number in hospital on that day week.

Diseases of the respiratory system caused 26 deaths, being 5 over the number for the preceding week, and 4 over the average for the 26th week of the last ten years. The 26 deaths comprise 13 from bronchitis and 12 from pneumonia or inflammation of the lungs.

In the week ending Saturday, July 4, the mortality in thirty-three large English towns, including London (in which the rate was 18·3), was equal to an average annual death-rate of 17·8 per 1,000 persons living. The average rate for eight principal towns of Scotland was 18·8 per 1,000. In Glasgow the rate was 21·8, and in Edinburgh it was 15·4.

The average annual death-rate represented by the deaths registered in the sixteen principal town districts of Ireland was 23·0 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 4·4 per 1,000, the rates varying from 0·0 in eight of the districts to 14·1 in Londonderry—the 19 deaths from all causes registered in that district comprising 6 from measles and 3 from scarlatina. Among the 116 deaths from all causes registered in Belfast are 7 from measles, 2 from scarlatina, 4 from whooping-cough, 1 from diphtheria, 4 from enteric fever, and 11 from diarrhœa. The 31 deaths in Cork comprise 1 from whooping-cough, 1 from enteric fever, and 1 from diarrhœa. The 18 deaths in Limerick comprise 1 from typhus and 1 from diphtheria.

In the Dublin Registration District the registered births amounted to 198—99 boys and 99 girls; and the registered deaths to 172—79 males and 93 females.

The deaths, which are 21 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 25·7 in every 1,000 of the population. Omitting the death of one person admitted to hospital from without the district, the rate was 25·5 per 1,000. During the first twenty-seven weeks of the current year the death-rate averaged 24·3, and was 4·8 under the mean rate in the corresponding period of the ten years 1886–1895.

Thirty-five deaths from zymotic diseases were registered, being 12 in excess of the average for the corresponding week of the last ten years, and 15 over the number for the previous week. They include 6 from scarlet fever (scarlatina), 2 from influenza and its complications, 5 from whooping-cough, 1 from cerebro-spinal meningitis, 3 from enteric fever, 1 from choleraic diarrhœa, and 17 from diarrhœa. The deaths from diarrhœa are 12 over the average number of deaths from that cause in the corresponding week of the last ten years: they include 18 deaths of infants under one year old.

Eleven cases of enteric fever were admitted to hospital, against 9 admissions in the preceding week, and 6 in that ended June 20. Ten enteric fever patients were discharged, 1 patient died, and 49 remained under treatment on Saturday, being equal to the number in hospital at the close of the preceding week.

The weekly number of cases of scarlatina admitted to hospital, which had risen from 35 in the week ended June 20 to 50 in the following week, fell to 32. Twenty patients were discharged, 4 died, and 220 remained under treatment on Saturday, being 8 over the number in hospital at the close of the preceding week.

Deaths from diseases of the respiratory system, which had risen from 21 in the week ended June 20 to 26 in the following week, fell to 17, or 4 under the average for the corresponding week of the last ten years. The 17 deaths comprise 5 from bronchitis and 10 from pneumonia or inflammation of the lungs.

In the week ending Saturday, July 11, the mortality in thirty-three large English towns, including London (in which the rate was 20·9), was equal to an average annual death-rate of 19·9 per 1,000 persons living. The average rate for eight principal towns of Scotland was 18·8 per 1,000. In Glasgow the rate was 20·9, and in Edinburgh it was 17·5.

The average annual death-rate in the sixteen principal town districts of Ireland was 22·6 per 1,000 of the population.

The deaths from the principal zymotic diseases registered in the sixteen districts were equal to an annual rate of 8·6 per 1,000, the rates varying from 0·0 in eight of the districts to 9·0 in Wexford—the 7 deaths from all causes registered in that district comprising 2 from diarrhœa. Among the 132 deaths from all causes registered in Belfast are 2 from measles, 2 from scarlatina, 3 from whooping-cough, 2 from diphtheria, 1 from simple continued fever, 3 from enteric fever, and 11 from diarrhœa. The 19 deaths in Londonderry comprise 1 from measles, 1 from enteric fever, and 1 from diarrhœa. The 9 deaths in Waterford comprise 1 from whooping-cough and 1 from diarrhœa.

In the Dublin Registration District the registered births amounted to 208—113 boys and 95 girls; and the registered deaths to 170—76 males and 94 females.

The deaths, which are 26 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 25·4 in every 1,000 of the population. Omitting the deaths (numbering 9) of persons admitted into public institutions from localities outside the district, the rate was 24·0 per 1,000. During the first twenty-eight weeks of the current year the death-rate averaged 24·4, and was 4·4 under the mean rate in the corresponding period of the ten years 1886–1895.

Thirty-seven deaths from zymotic diseases were registered, being 2 over the number recorded in the preceding week, and 15 over the average for the 28th week of the last ten years. They comprise 1 from scarlet fever (scarlatina), 1 from influenza, 7 from whooping-cough, 1 from enteric fever, 1 from choleraic diarrhœa, and 19 from diarrhœa. The deaths from diarrhœa, which are 12 in excess of the average for the corresponding week of the last ten years, and 2 over the number for the previous week, include the deaths of 15 children under 5 years of age, of whom 12 were infants under one year old.

Eighteen cases of enteric fever were admitted to hospital, being 7 over the admissions in the preceding week, and 9 over that in the week ended June 27. Seven enteric fever patients were discharged, 1 patient died, and 59 remained under treatment on Saturday, being 10 over the number in hospital at the close of the preceding week.

The number of cases of scarlatina admitted to hospital was 31, being 1 under the admissions in the preceding week, and 19 under those in the week ended June 27. Forty-two patients were discharged, 1 died, and 208 remained under treatment on Saturday, being 12 under the number in hospital on that day week.

The number of deaths from diseases of the respiratory system registered was 17, being equal to the number for the preceding week, but 5 under the average for the 28th week of the last ten years. The 17 deaths for last week comprise 10 from bronchitis and 5 from pneumonia or inflammation of the lungs.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ *N., Long.* 6° 15′ *W., for the Month of June*, 1896.

Mean Height of Barometer,	**29·929 inches.**
Maximal Height of Barometer (on 29th, 9 a.m.),	**30·276 „**
Minimal Height of Barometer (on 17th, 9 a.m.),	**29·420 „**
Mean Dry-bulb Temperature,	**60·3°.**
Mean Wet-bulb Temperature,	**55·8°.**
Mean Dew-point Temperature,	**51·7°.**
Mean Elastic Force (Tension) of Aqueous Vapour,	**·386 inch.**
Mean Humidity,	**74·2 per cent.**
Highest Temperature in Shade (on 15th),	**80·8°.**
Lowest Temperature in Shade (on 1st),	**49·1°.**
Lowest Temperature on Grass (Radiation) (on 1st),	**44·2°.**
Mean Amount of Cloud,	**59·2 per cent.**
Rainfall (on 14 days),	**1·883 inches.**
Greatest Daily Rainfall (on 16th),	**·700 inch**
General Directions of Wind,	**W., N.W.**

Remarks.

A very favourable, warm, summer-like month. It is true that the rainfall and rainy days equalled or slightly exceeded the average, but 78 per cent. of the total precipitation occurred on 3 days, leaving only 22 per cent. to be distributed over the remaining 11 "rainy days." The month, therefore, was showery rather than wet. The heat on the 15th was very unusual for June in Ireland. The amount of cloud was large for so fine a month, and the strength and persistency of the N.W. winds of the closing period are noteworthy.

In Dublin the arithmetical mean temperature (61·4°) was above the average (57·8°) by 3·6°; the mean dry bulb readings at 9 a.m. and 9 p.m. were 60·3°. In the thirty-one years ending with 1895, June was coldest in 1882 (M. T. = 55·8°); and in 1879 ("the cold year") (M. T. = 55·9°). It was warmest in 1887 (M. T. = 62·3°); in 1865 (M. T. = 61·0°); and in 1868 (the "warm year") M. T. = 60·5°). In 1895 the M. T. was 59·2°.

The mean height of the barometer was 29·929 inches, or 0·012 inch above the corrected average value for June—namely, 29·917 inches. The mercury rose to 30·276 inches at 9 a.m. of the 29th, and fell to 29·420 inches at 9 a.m. of the 17th. The observed range of atmospheric pressure was, therefore, 0·856 inch—that is, a little less than nine-tenths of an inch.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 60·8°, or 5·4° above the value for May, 1896. Using the formula, *Mean Temp.* = *Min.* + (*max.—min.* × ·465), the value was 60·9°, or 3·7° above the average mean temperature for June, calculated in the same way, in the twenty-five years, 1865–89, inclusive (57·2°). The arithmetical mean of the maximal and minimal readings was 61·4°, compared with a twenty-five years' average of 57·8°. On the 15th the thermometer in the screen rose to 80·8°—wind, E.S.E. to S.W.; on the 1st the temperature fell to 49·1°—wind, E. The minimum on the grass was 44·2°, also on the 1st.

The rainfall amounted to 1·883 inches, distributed over 14 days. The average rainfall for June in the twenty-five years, 1865–89, inclusive, was 1·817 inches, and the average number of rainy days was 13·8. The rainfall was, therefore, slightly above, while the rainy days were exactly the average. In 1878 the rainfall in June was very large—5·058 inches on 19 days; in 1879, also, 4·046 inches fell on 24 days. On the other hand, in 1889, only ·100 inch was measured on 6 days; in 1887, the rainfall was only ·252 inch, distributed over only 5 days. In 1895, 1·872 inches fell on 12 days.

High winds were noted on 7 days, but the force of a gale was attained only on the 30th. Temperature reached or exceeded 70° in the screen on 9 days, compared with 17 days in 1887, only 1 day in 1888, and 7 days in 1895. Hail fell on the 24th. A thunderstorm occurred on the 24th, and thunder was heard on the 18th.

The period ended Saturday, the 6th, saw the disappearance of the anticyclonic conditions which had so long held sway over the British Islands, and the substitution for them of a cyclonic distribution of atmospheric pressure, with a consequent break in the fine weather. As usually happens, the change was accompanied by thunderstorms, which were particularly frequent and severe in France and Great Britain, less frequent and less severe in Ireland. In advance of the electrical disturbances very high day temperatures were recorded—the maxima up to Friday, for example, were—in Paris, 82°, 84°, 74°, and 78°; in London, 79°, 85°, 77°, and 81°. Dublin was much cooler because the prevailing easterly and south-easterly winds were off the sea—the corresponding values were—64°, 62°, 69°, and 67°. Monday, the 1st, was brilliantly fine. Showers fell on Tuesday afternoon and night, and the sky was cloudy. Wednesday was bright and warm on the coast, showery inland. On Thursday evening rain fell in heavy showers. Friday was fine in Dublin, showery inland. On Saturday morning the S.E. wind freshened to a strong breeze and showery weather followed. In Dublin the barometer ranged from 29·971 inches at 9 a.m. of Monday (wind, E.) to 29·629 inches inches at 9 p.m. of Saturday (wind, S.E.). On Monday the screened thermometers fell to 49·1°; on Wednesday they rose to 68·9°. The rainfall was ·158 inch on three days, ·104 inch being measured on Thursday. The prevailing wind was S.E.

In the neighbourhood of Dublin especially the weather of the week ended Saturday, the 13th, was most favourable—fine and warm, only on Monday was there a moderate rainfall in or near the Irish capital. On the other hand, conditions were quite unsettled up to Friday in the S., S.E., and E. of England, where rain fell in abundance on Tuesday and Wednesday. This somewhat unusual distribution of weather was caused by the approach to the southern shores of the British Isles of two depressions—one on Sunday, the other on Tuesday. Of these the first hung off the extreme S.W. of Ireland during Sunday and Monday and then "filled up." It threw off various shallow subsidiaries, which brought thunderstorms and heavy but rather local rains to many parts of the United Kingdom. In Dublin on Sunday afternoon the sky became hazy, cloudy and lowering, but only a few drops of rain fell—at Holyhead, on the contrary, the measurement was six-tenths of an inch. The second depression advanced across Brittany and the English Channel to England, Ireland almost escaping its influence. It caused abundant rains and thunderstorms in the S. and E. of Great Britain, as well as on the Continent. At Wiesbaden 3·27 inches of rain fell in the 24 hours ending 8 a.m. of Wednesday. On Friday a large low pressure system lay off the W. of Ireland, but it retreated and Saturday proved warm and bright. In Dublin the mean height of the barometer was 29·781 inches, pressure ranging from 29·471 inches at 9 p.m. of Sunday (wind, E.), to 30·082 at 9 p.m. of Saturday (wind, E. by S.). The corrected mean temperature was 60·6°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 60·5°. On Thursday the minimum in the shade was 50·4°, on Saturday the maximum was 72·0°. The wind was variable—chiefly W.N.W. and S.E. Rain fell on Monday to the amount of ·079 inch.

Opening with a period of intense heat, the week ended Saturday, the 20th, proved changeable, and abundant and refreshing rains fell over Ireland, Scotland, and the North of England. In the south and south-east of the last-named country the rainfall was scanty—thus reversing the distribution of precipitation which had occurred in the previous week. Blazing sunshine prevailed throughout Sunday and Monday. On the latter day the thermometer even in the shade rose to 86° in London, 84° at York, Liverpool, and Loughborough, 83° at Cambridge, 82° at Oxford and Parsonstown, and 81° in Dublin. This last reading was the highest recorded in Dublin in June for at least 30 years, and was higher than any maximum in this city observed since July 16, 1876, when the phenomenal reading (for Dublin), 87·2°, was recorded. On six occasions during the summer of 1868 the thermometer rose to 80° in the shade in Dublin, the highest readings of all being 86° on July 15 and 85° on July 21. On August 1, the maximum was 82°. After the great heat on Monday, temperature fell fast, a rather deep depression formed over Ireland and Scotland and a copious downpour of rain occurred on Tuesday night. Afterwards the weather remained cool, breezy and showery to the end of the week. On Thursday very heavy electrical showers, accompanied by thunder, fell along the east coast of Ireland. They were due apparently to a great chill during the previous night, when the shade thermometer fell to 45° at Parsonstown, 46° at Donaghadee and 49° in Dublin. In this city the mean pressure was 29·932 inches, the barometer falling to 29·420 inches at 9 a.m. of Wednesday (wind, W. by S.) and rising to 30·173 inches at 9 p.m. of Saturday (wind, W.N.W.). The corrected mean temperature was 62·2°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 60·9°. On Monday the screened thermometers rose to 80·8°, on Friday they sank to 49·4°. The rainfall was 1·164 inches on four days, ·700 inch being measured on Tuesday and ·429 inch on Thursday, when thunder occurred. The prevailing winds were E.S.E. and W.S.W.

Another week of changeable, but most favourable, weather, drew to a close on Saturday, the 27th. Except on Saturday the heat by day was moderate, while no very low temperatures by night were recorded. As a rule the barometer stood high in the S., but was relatively low in the N. or N.E. On Wednesday, when there was a decided tendency to thunderstorms, slight gradients for northerly winds became established over the British Isles, lasting until Friday. At the close of the week, a fall of the barometer in the N.W. brought W. and S.W. winds, a rapid rise of temperature and changeable, cloudy weather. In Dublin Sunday was fair to cloudy at times. On Monday some showers fell—a rather heavy one at 10 p.m. Tuesday also proved showery. Early on Wednesday dense electrical cumuli were seen to form, and at noon a sharp thunderstorm, accompanied by heavy rain and hail, passed over Dublin. The rainfall resulting from the storm was three-tenths of an inch. Another heavy shower fell towards evening. Thursday was cloudy and cool but fine. Friday was bright and warm to cloudy. Saturday was close and relaxing with much cloud—between 2 and 3 p.m. heavy showers passed over the city. At this station the mean height of the barometer was 30·137 inches, the lowest reading being 30·004 inches at 7.15 a.m. of Tuesday (wind, W. by N.), the highest 30·237 inches at 9 a.m. of Friday (wind, N.N.W.). The corrected mean temperature was 61·9°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 61·0°. On Sunday the screened thermometers fell to 52·1°, on Saturday they rose to 72·8°. Rainfall amounted to ·477 inch on five days, ·340 inch being measured on Wednesday. The prevailing wind was N.W. Thunder, lightning and hail were observed on Wednesday.

The last three days of the month were unsettled and windy, but for the most part dry. In Dublin only ·005 inch of rain fell on Tuesday morning, the 30th. The direction of the wind was chiefly N.W., so that temperature was not high, except on Monday afternoon, when the wind backed to W.S.W. On the 30th, a fresh N.W. gale prevailed—the squalls being of unusual severity for midsummer.

The rainfall in Dublin during the six months ending June 30th, amounted to 7·854 inches on 84 days, compared with 12 282 inches on 80 days in 1895, 14·361 inches on 109 days in 1894, 9·624 inches on 78 days in 1893, 11·770 inches on 97 days in 1892, 8·748 inches on 77 days in 1891, 13·413 inches on 94 days in 1890, 10·576 inches on 97 days in 1889, 12·113 inches on 87 days in 1888, 6·741 inches on 67 days in 1887, and a twenty-five years' average of 12·313 inches on 95·4 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall was 1·640 inches, distributed over 9 days. Of this quantity ·960 inch fell on the 16th. The total fall since January 1 has been 7·356 inches on 61 days, compared with 14·270 inches on 67 days in the first six months of 1895, 17·381 inches on 96 days in 1894, and 11·776 inches on 75 days in 1893.

The rainfall at Cloneevin, Killiney, Co. Dublin, amounted to 1·65 inches on 13 days. The greatest fall in 24 hours was ·64 inch on the 16th. The average rainfall for June in the 10 years, 1885–1894, was 1·460 inches on 11·6 days. In 1895, 1·94 inches fell on 12 days. Since January 1, 1896, 6·98 inches of rain have fallen at this station on 70 days.

PERISCOPE.

THIRD INTERNATIONAL CONGRESS OF DERMATOLOGY.

The above Congress is to take place in London from August 4th to 8th, inclusive, the meetings being held, as previously announced, at the Examination Hall on the Victoria Embankment. About 400 members, British and Foreign, have already signified their intention of being present. It would greatly facilitate the work of the Executive Council and of the various committees if gentlemen desirous of becoming members would forward the membership fee of £1 (which entitles to the volume of Transactions) to the Hon. Treasurer, Mr. Malcolm Morris, No. 8 Harley-street, W., as soon as possible. All information respecting the work of the various committees may be obtained from Dr. James Galloway, Secretary of the Museum and Demonstration Committee, 21 Queen Anne-street, Cavendish-square; Mr. H. D. Plimmer, "Wunderbau," Sydenham, S.E., Secretary of the Bacteriological Committee; and Mr. George Pernet, 77 Upper Gloucester-place, N.W., Secretary of the Reception Committee; while all general information will be given on application to Dr. J. J. Pringle, Secretary-General. The following arrangements have been made for the reception and entertainment of members of Congress. The Reception Room at the Examination Hall on the Victoria Embankment, where the meetings of Congress will take place, will be open on Monday, August 3rd, from 12 noon to 6 p.m., for the distribution of tickets of membership, programmes of the proceedings, &c. Clerks, speaking French, German and Italian, will be in attendance. There will also be Bureaux, to which postal and telegraphic communications for members may be addressed. On the evening of Monday, August 3rd, an informal reception, by the British members of Congress, will be held at the International Hall, Café Monico, Piccadilly Circus, from 9 to 12 p.m. On Tuesday, August 4th, the Examination Hall will be opened at 9 a.m. for the issue of tickets, &c. The official proceedings will begin at 11 a.m., by the usual routine business and the delivery of a Presidental Address by Mr. Jonathan Hutchinson, F.R.S., followed by speeches by Professor Kaposi of Vienna, and Dr. Ernest Besnier of Paris. On the evening of Wednesday, August 5th, the Lord Mayor and Lady Mayoress will entertain the Congress at a reception at the Mansion House, from 9 to 11 o'clock. On Friday, August 7th, a Banquet will be offered to the Foreign members of Congress, at the Hotel Cecil. Foreign members are strongly recommended to make their arrangements so as to arrive in London on Sunday, August 2nd, as Monday, August 3rd, is a national holiday. On Thursday, August 6th, Dr. Stephen Mackenzie will entertain the members at a reception in the evening, at 18 Cavendish-square, W. On Saturday, August 8th, the President and Miss Hutchinson will give an "At Home," at "Inval," Haslemere, and by the invitation of Lord Tennyson, the party will visit the house of the late poet laureate. Dates and subjects for demonstration:—Wednesday, August 5th, 9 a.m., the Lichen group.—Cases of lichen planus, lichen acuminatus, pityriasis rubra pilaris, lichen simplex chronicus (Vidal), &c.; prurigo; keratosis pilaris, and other keratoses; angiokeratoma, ichthyosis. 2 p.m.—Tumours of the skin, benign and malignant; hidrocystoma, adenomata, angiomata, fibromata, xanthoma; carcinoma, rodent ulcer, xeroderma pigmentosum; sarcoma cutis, mycosis fungoides. Thursday, August 6th, 9 a.m.—Cases of cutaneous tuberculosis, showing important or exceptional features; erythema induratum scrofulosorum, acne scrofulosorum, lichen scrofulosorum; cases of these diseases showing the effects of treatment. 2 p.m.—Cases of vegetable parasitic diseases as observed in this country. Friday, August 7th, 9 a.m., the Erythema group.—Purpura; urticaria pigmentosa; dermatitis herpetiformis, pemphigus, pemphigus vegetans, &c.; hydroa æstivale and allied conditions. 2 p.m.—Syphilis, typical and illustrative cases. Saturday, August 8th, 9 a.m.—Skin diseases associated with diseases of the nervous system, syringomyelia, sclerodermia, &c.; leprosy.

ECZEMA.

M. E. Saulfeld prescribes the following for eczema:—Europhen, 5 grammes; anhydrous lanoline, 5 grammes; powdered talc, 90 grammes; mix.

ERYSIPELAS.

M. Nagoubnoff prescribes the following ointment for erysipelas:—Ichthyol, 10 grammes; vaseline, 5 grammes; mix.

ŒDEMA.

For œdema of cardiac origin, Dr. Hinkelstein recommends the following:—Calomel, 0·12 centigrammes; digitalis powder, 0·02 centigrammes; mix for a dose. Four such doses to be taken daily.—*La Revue Médicale.*

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

Æsculap Bitter Water.

THE Æsculap Spring is situated in the Kelenföld, Buda-Pest. It was discovered by a peasant, in 1868. In 1881 it was purchased by the Æsculap Bitter Water Company, whose head-quarters are 51 Farringdon-street, Holborn Viaduct, London, E.C., and Buda-Pest. The company subsequently acquired a large area round the spring to prevent the possibility of any surface contamination affecting its purity.

The spring is under the control of the Royal Hungarian Chemical Institute (Minstry of Agriculture) at Buda-Pest, but the management and process of bottling are carried on under English supervision. Professor Johann Molnar, Government analyst, Buda-Pest, has examined the water with the following result:—Salts in 10,000 parts of water: Sulphate of potassium, 0·104; sulphate of ammonia, 0·061; sulphate of sodium, 139·063; sulphate of magnesium, 172·805; sulphate of calcium, 20·788; chloride of sodium, 29·047; carbonate of sodium, 9·989; carbonate of iron, 0·097; carbonate of manganese, 0·429; alumina, 0·349; silicic acid, 0·092; total, 372·824. The temperature of the water as it issues from the spring varies from 42·8° F. (6° C.) in March, to 57·2° F. (14° C.) in August. It is an efficient aperient when taken in the early morning with or without the addition of cold or hot water.

Apenta Water.

GEHEIMRATH PROFESSOR OSCAR LIEBREICH, M.D., Regius Professor of Chemistry, University of Berlin, writes as follows on this new aperient water in the *Therapeutische Monatshefte*, Berlin, June, 1890:—"It has oftentimes been pointed out, and that, too, with reference to mineral waters, that the first condition of therapeutic efficacy is the constancy of the remedy employed. In the case of natural mineral waters this point is of the greatest importance. The aperient waters offer the one sole exception in regard to this constancy among our natural mineral springs. These are formed by impregnation of the natural basins which supply the mineral constituents. From this, as observation teaches us, there arises an extraordinary inconstancy of the chemical constituents. The aperient waters, therefore, form an exception to the mineral springs proper. For medical purposes it is absolutely necessary, in prescribing this water, to know the dose. It has happened not infrequently that a wineglassful of aperient water has been shown to contain the same amount of mineral constituents as the practitioner would, from the analysis, expect to be present in a tumblerful. It is obvious, therefore, that neither the practitioner nor the patient can form a correct opinion in this manner; and under these circumstances it may even happen that an unexpectedly great degree of concentration may do harm by useless irritation of the intestines. There is a further disadvantage arising from changes in mineral constituents, so that, instead of the sulphates which the water should contain, chlorides are present in an injurious amount. The opinion has very often been expressed that the bottling of such waters should be under scientific control, so that their proper constitution should be ensured exactly in the same way as that of other medicines is regulated by the Pharmacopœia. It is therefore a matter for high satisfaction that the aperient water, 'Apenta,' from the Uj Hunyadi springs in Ofen, has been placed under State control. The Royal Hungarian Chemical State Institute (Ministry of Agriculture) has undertaken this charge, and therefore it is now possible to obtain a water which is free from injurious extraneous waters infected with organic substances. The analysis had been published by Professor Liebermann, Director of the said Institute. The proportion of sulphate of sodium to sulphate of magnesium is 15·432 to 24·4968 in the litre, so that this water is to be classed with the best aperient waters, and may be pronounced one of the strongest. Owing to the constancy of the Apenta water ensured by the State guarantee, that confidence in aperient waters which had been lost will be revived through this important therapeutic agent. The constancy of the Apenta water makes the use of it indicated not only as an occasional purgative, but in systematic courses of treatment. It is particularly recommended for the regulation of tissue change in the most diverse diseases—in obesity, chronic constipation, portal obstruction, hæmorrhoids. Whether the lithia contained in this water is of any therapeutic importance is at present doubtful, but its presence is a distinctive feature in the analyses."

Tabloids of Uranium Nitrate and of Piperazine.

MESSRS. BURROUGHS, WELLCOME & COMPANY have submitted for our consideration specimens of two additions of their list of "tabloids" of compressed drugs. Uranium nitrate "tabloids" are prepared from the uranious salt, and contain 1 grain in each "tabloid." They have been successfully prescribed by Dr. Samuel

West and other physicians in the treatment of diabetes mellitus and other diseases, and are issued to the medical profession in bottles containing 100 "tabloids." Piperazine "tabloids" are supplied to the medical profession in bottles containing 25 5-grain "tabloids." Piperazine is said to form in the body a compound with urate of sodium nearly nine times more soluble than urate of lithium, and is accordingly recommended in preference to salts of lithium in those conditions of uric acid diathesis, attended by deposition of urates in the tissues. Although so competent an authority as Professor Walter G. Smith questions the efficacy of piperazine, yet these tabloids form an elegant method of exhibiting the preparation.

New "Soloids."

MESSRS. BURROUGHS, WELLCOME & COMPANY, Snow Hill Buildings, London, E.C., have recently made four notable additions to their list of ' soloids" of compressed drugs. The distinctive cone-shape of the "soloid" makes it practically impossible to confuse it with the bi-convex "tabloid." *Zinc chloride "soloids,"* 1 gr.—These "soloids" can be used for the preparation of a number of caustic or antiseptic solutions. One, dissolved in an ounce of water, forms a useful astringent collyrium, or may be employed as an injection in inflammatory or catarrhal conditions of the mucous passages. *Corrosive sublimate "soloids,"* 1·75 gr.—One of these "soloids," dissolved in four ounces of water, makes a solution of a strength of 1 in 1,000. This astringent and antiseptic solution may be used for an immense variety of purposes, such as in surgical operations, injection into inflamed mucous passages, into the eye for inflamed conjunctiva, and as a general antiseptic lotion for the skin. *Silver nitrate "soloids,"* 1 gr.—One of these "soloids," dissolved in an ounce of freshly distilled water, forms a solution suitable for general use as a lotion or collyrium. In strong solution it would be applied as caustic. *Potassium permanganate "soloids,"* 5 gr.—These "soloids" are particularly useful for the instant preparation of solutions for antiseptic and deodorising purposes, or as an antidote in cases of phosphorus poisoning. One, dissolved in one fluid ounce of water, makes a solution approximately of the same strength as the official liquor potassii permanganatis. One, dissolved in a pint of water, makes a solution of the strength of 1 in 1,750, for antiseptic washes and irrigations.

THE DUBLIN JOURNAL
OF
MEDICAL SCIENCE.

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⁂

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THE DUBLIN JOURNAL

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SEPTEMBER 1, 1896.

PART I.

ORIGINAL COMMUNICATIONS.

ART. IX.—*Leucocythæmia.*[a] By JAMES CRAIG, M.D., F.R.C.P.I.; Physician to the Meath Hospital.

A BOY died in the Meath Hospital on the 27th of January last, a victim to the comparatively rare but generally rapidly fatal form of leucocythæmia, known as the lymphatic type.

The purely splenic, or lymphatic, or medullary form of leukæmia is seldom met with; more usually mixed types occur, in which two or perhaps all three varieties are combined, the commonest of all being the spleno-medullary, but still when you have examined the films of stained blood that are placed under the microscope, I think you will agree with me in regarding this case as belonging to the purely lymphatic type. In a paper read before the Medical Section of this Academy in 1891, Dr. Wallace Beatty recorded a case of the purely medullary form, and for the recognition of which, in the absence of external signs to prompt him, he deserves the greatest credit. Unfortunately, at that time but little had been done in the direction of distinguishing the different kinds of leucocytes to be found in the blood, so that although these cells were, as a whole, greatly increased, still the particular variety met with in that case has not been recorded.

---

[a] Read before the Medical Section of the Royal Academy of Medicine in Ireland, Friday, May 8, 1896.

The boy, who was nineteen years of age, was an Italian by birth, an image-maker by occupation, and his fatal illness, which was of an acute nature, extended only over two months altogether.

On observing the photograph [exhibited] you will note particularly the thickness of his neck, the swelling of the parotid region, the tumours in the axillæ—all of lymphatic origin—and the distension of his abdomen. The enlargement of lymphatic glands was universal. The spleen and liver were both increased in size, and the tonsils were swollen and painful.

The pallor of his skin was probably accentuated by a naturally sallow complexion peculiar to his countrymen. As the illness progressed, dyspnœa became more marked. Profuse epistaxis occurred, and with this a diarrhœa so persistent that the treatment of the case was mainly directed to combating these two distressing symptoms. Severe epigastric pain was constant, which, with evident intestinal distension, as well as the persistent diarrhœa, suggested an inflammation of the colon that was not verified by the *post-mortem* examination. There was no tenderness over the sternum.

Priapism—an occasional symptom in such cases—was observed. A venous hum was present in the neck, and a soft systolic murmur was audible over the mitral area. About a week before his death the lower extremities became œdematous, and the glandular swelling was considerably diminished. The temperature was variable, ranging from 99° to 103° F., and as death approached it fell to 97° F.

The case on admission was thought to be one of Hodgkin's disease, or lymphadenoma, and undoubtedly many of the cases described as such were similar in nature to the present one; but if we take it that permanent increase of white blood cells is characteristic of leucocythæmia, while mere diminution of the cellular elements of the blood is a feature of the other, then we are in a position to discriminate between these closely-allied affections—lymphatic leucocythæmia, and lymphadenoma.

I shall not weary you with details of the repeated examinations of the blood which were made; suffice to say that the red cells were reduced to at least one-third of their normal number—a condition for which the epistaxis was probably largely accountable, while the white ones were both absolutely and relatively increased, the proportion of white to red being about one to twenty instead of one to three hundred.

In the slides which are placed under the microscopes, and for the staining of which I am indebted to Dr. M'Weeney, you will observe at a glance this increase of white cells, but in addition to the increase it is possible also to distinguish between the different varieties of these corpuscles. One preparation is stained with acid hæmatoxylin and eosin, and the other with Ehrlich-Biondi triple stain of methyl green, acid fuschin, and orange.

You are aware that the leucocytes of human blood are not all of the same size, and that they differ also in other respects. In some the protoplasm is granular, in others it is without granules; in some the granules are large, in others, again, they are small. But, in addition to these peculiarities, it has been found that the granules in some cells stain with acid dyes, while in other cells they stain only with basic dyes. I may add that the latest investigations in this connection go to show that the granules of certain cells, which were supposed by Ehrlich to stain with neutral dyes alone, and hence called by him neutrophiles, are now found to stain not with neutral but with acid dyes.

The most recent work on the subject is a paper by Kanthack and Hardy. They classify these cells into five varieties, as follow:—

Acidophiles, or Oxyphiles, granules stain with Eosin	1. Coarsely granular, polynuclear or horseshoe-shaped nucleus (Ehrlich's eosinophiles)—2·3 per cent.	10·0 μμ in dia.
	2. Finely granular, irregular-branching nucleus (Ehrlich's neutrophiles)—62 per cent.	8–9·0 μμ „
Basophile, granules stain with Methylene blue	3. Finely granular, trilobed nucleus—0·7 per cent.	7·0 μμ „
	4. Hyaline cells, *free from granules*, mononuclear, and generally spherical—11 per cent.	8·5–10·0 μμ „
	5. Lymphocytes with single nucleus, a very little protoplasm—24 per cent.	6·0 μμ „

The percentages here represent the proportion of each variety found in the blood in health.

All of these cells occur in normal blood, and, roughly speaking, in splenic leukæmia No. 1 are greatly increased, in the lymphatic form the increase is in No. 5, while in the medullary form other cells are observed that are not present in health, namely, mononuclear cells, larger than No. 4, but unlike them in containing granules which stain only with neutral dyes. These are called myelocytes, from their supposed origin in the bone marrow.

Now, in these films, prepared from the Italian boy's blood, you will notice that, practically speaking, the small lymphocytes only are increased, although a few of at least 1, 2 and 4 can be seen as well, but the total increase of leucocytes in the lymphatic form is never found to be so great as in the splenomedullary form. So much for the blood.

The main facts revealed by the autopsy were these :—The organs generally were pale and bloodless, all the subcutaneous lymphatic glands were enlarged, some not larger than a marble, others the size of a walnut. About a quart of serous transudation lay in the pleural sacs and a few ounces in the pericardium. A mass of lymphoid tissue lay in front of the lower end of the trachea, and a larger mass surrounded the right bronchus. The lymphatic glands along the whole course of the intestinal tube were much enlarged, the liver and spleen were considerably increased in size, the pancreas was white and bloodless, the stomach and intestines were distended with gas, and the mucous membrane of the latter was pale, while Peyer's patches and the solitary follicles were enlarged and sharply defined. Under the microscope the liver and spleen were found to be impacted with lymphocytes, which accounted for their increased bulk.

The case is of interest in several particulars. In the first place this lymphatic variety is rare, and where it does occur is generally, as in the present instance, found in young subjects, and it usually runs through a rapid and fatal course.

In the splenic or splenomedullary forms the insidious and slowly progressive nature of the affection, as it is commonly met with, affords an opportunity for treatment, so that cases of improvement or recovery are not infrequent.

I have several such patients whose blood has improved and whose spleens have returned almost, if not quite, to their normal dimensions under the free administration of arsenic, so that they are able, after a number of years, still to follow their daily avocations. In this case, however, I was obliged to drop the arsenic on account of the diarrhœa, and to treat symptoms instead.

In the next place, the acute nature of the symptoms pointed to an infective cause, and it is highly probable that before long we may have the presence of a micro-organism, or its poisonous products, demonstrated in the blood to account for the grave changes that are present in leucocythæmia.

And lastly, the advances that have been made within recent years in the study of the white-cell elements of the blood render it a fairly easy matter now to distinguish in stained preparations the particular form of the affection under observation, although it is true that much has yet to be added before our knowledge becomes at all perfect.

Art. X.—*A Case of Fracture of the First Rib, complicated by Abscess opening into the Lung, with Remarks on Fractures of the First Rib.*[a] By G. Jameson Johnston, M.A., M.B.; Assistant Surgeon, Richmond Hospital.

E. N., female, aged forty-five, was carrying a fender on Saturday, 11th February, 1893, when, stepping from the footpath to the roadway, she missed her footing, staggered forwards for a few yards, and fell on the fender. Her left ring finger was caught between the fender and the ground, and received a compound comminuted fracture of its distal phalanx. She was so much concerned about the latter injury that she was unable to give an exact description of the other, but stated that the corner of the fender struck her under the inner part of the left collar-bone, and that the left side of her face was hurt. At the time she felt nothing give way.

The following Monday she attended the dispensary of the Richmond Hospital, and had her finger dressed. The dressing was repeated on Wednesday. During the succeeding days she was unable to leave her bed, suffering from pain in the back, headache, pain in the left axilla and pectoral region. She was seen at her own home on the next Monday—*i.e*, the ninth day after the receipt of the injury, and was advised to come to hospital.

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[a] This case was under the care of Sir Thornley Stoker in the Richmond Hospital.

She was admitted under the care of Sir Thornley Stoker on the 20th February, and was found to be in a very prostrate and partially-collapsed condition, very anæmic, with a weak small pulse, and complaining of pain at the inner part of the left infraclavicular region, which was increased by movement, coughing, or pressure over the part. There was slight ecchymosis on the left side of the face and neck and over the left shoulder. There was no specially-localised contusion or swelling over the painful part, nor was there any sign of lymphangitis or tender and enlarged glands in the left axilla. Her respirations were mainly diaphragmatic. Stimulants were prescribed, and a poultice was ordered to be placed on the part complained of.

During the first week in hospital her general condition slightly improved; her temperature varied from 97·8° to 101·4° F., reaching 102° on March 1st. A swelling gradually appeared over the inner portions of the first and second intercostal spaces, over which deep fluctuation could be distinctly felt. Sir Thornley Stoker diagnosticated either separation of the first rib from its cartilage or fracture of the first rib.

On the evening of March the 2nd the patient's temperature rose to 101·8°, and the next morning the swelling had suddenly disappeared, being replaced by a flaccid condition of the soft parts with some emphysema. A slight cough, which existed since her admission, was greatly increased, and she expectorated a considerable quantity of pus. The temperature was now normal. On auscultation over the centre of the area involved, a peculiar "glucking" sound could be heard, both on inspiration and expiration, as if air was being drawn in and forced out of a cavity with moist flaccid walls. Dr. Nugent, whom Sir Thornley Stoker called in in consultation, said he had never heard anything similar before.

The general condition of the patient improved greatly, but the expectoration of pus still continued, and for the succeeding eight days the temperature fluctuated between 98° and 102° F. the latter temperature being reached on the evening of March 12th. The next morning it had fallen to 97°; on March 14th it rose to 103°; on the morning of the 15th it was normal.

On March 15th Sir Thornley Stoker made a horizontal incision two and a half inches long over the second left intercostal space, commencing about two inches from the left border of the manubrium. The incision involved the tissues down to the pectoralis major. The slight hæmorrhage which occurred was controlled before proceeding further. The fibres of the pectoralis major were then separated, and the subjacent areolar tissue displaced with a director. This exposed the wall of an abscess cavity. On its being cut into about an ounce of thick creamy pus was expelled. Exploration of the cavity by means of the finger and a bulbous sound showed that it extended to the left for about two or three inches, between the pectoral muscles and the chest wall, and that it communicated with the lung. No connection with the pleural cavity was discovered. It was also found that the first rib had sustained a comminuted fracture near its chondrocostal junction. A pyramidal piece of bone about the size of a small pea was lying loose and removed. The cavity was gently flushed out with a weak corrosive solution. A drainage tube was inserted, reaching the surface at the inner end of the incision. It was fixed in position by means of a suture. The wound was closed with one suture, and dressed in the usual way.

On the evening of the operation day the patient had rigors, which lasted about three hours, the temperature reaching 103°. They terminated by copious perspiration. At night the patient felt weak, the pulse was 112, respirations 34. A nutritive enema, with one ounce of whisky added, was administered. The patient had a good night, slept fairly well, and next day the expectoration was greatly diminished, though still containing pus and a slight trace of blood. On the second day after the operation the dressing was changed, there was a good deal of pus in the wound, the drainage tube and suture were removed, the expectoration was still muco-purulent. A wet boracic dressing was applied.

The patient then gradually improved, the pus in the sputum diminishing, and the operation wound healing up from the bottom. She was discharged fourteen days after the operation.

The interest of the foregoing case lies in the following—fracture of a single rib is rare; fracture of the first rib alone is supposed to be the rarest of all fractures, so much so that some authors deny its existence altogether. Its small size, limited range of movement, relative strength when compared with the other ribs, its deep position, protected as it is by the clavicle and the muscles arising from and inserted into it—all act as factors in limiting the number of fractures of this bone. However, it is probably fractured more frequently than is recorded, this being due to the difficulty of recognition, and also to the fact that sometimes the discomfort to the recipient is not so great as to compel the necessity for surgical advice.

The under-mentioned are the only cases on record which I have been able to trace after a careful search.

Up to 1886 only two cases had been recorded, one by Lyell, in Holmes' "System of Surgery," of a child who was run over, and who died in a few hours, the *post mortem* showing that the left first rib was found broken near the neck, the pleura was lacerated, and there was a minute rupture of the lung.

The other was a case recorded by Dr. Bennett, in the *Dublin Quarterly Journal*, for March, 1876, of fracture of both first costal cartilages, due to falling in of a roof; all the right and many of the left ribs were broken. Mr. Arbuthnot Lane thinks that this case was not one of fracture but of dislocation of a joint which, he states, is developed in the cartilage of the first rib in individuals who have led hard-working lives, and that this joint is formed concurrently with the ossification of the cartilages, which, according to him, always takes place in these cases. Mr. Lane bases his criticism of this case on the fact that the alleged fracture was transverse, but, after a careful examination of the original specimen, through Dr. Bennett's kind permission, I can find no reason to think that the original description was inaccurate. In examining the other specimens of fractured costal cartilages in the extensive collection in the Pathological Museum of Trinity College I noticed that the majority of these fractures were transverse.

Mr. Lane has recorded four cases from the dissecting room of Guy's Hospital, and has seen some during life. His recorded cases all occurred on the right side.

1. Hard worker, 1st rib, 1½ in. outside tubercle.
2. " " subclavian groove ununited.
3. " " insertion of scalenus medius.
4. " " internal to tuberosity.

Mr. Messiter records one case seen *post mortem* in a man who was run over—seven ribs broken on right side, the clavicle was intact.

Mr. Morton has reported (*B. M. J.*, Feb. 25, 1893) for Mr. C. F. Pickering, of Bristol, an interesting case of a man, aged sixty, who fell on his right side, injuring his right wrist; no chest symptoms for a week; abscess at root of neck and right sterno-clavicular articulation; latter opened; chest aspirated; 26 ozs. of pus on one occasion, and 20 ozs. on another, taken away. First right rib fractured at junction of ossified cartilage with sternum, and 1 inch further out, beyond chondrocostal junction. Not diagnosticated during life. I am indebted to Mr. Morton's paper for the references used.

Going back, then, to the case now recorded, it may be said that as there was so little evidence of local contusion at the time of the injury the bone may have been fractured by indirect violence; but the facts that there is a history of hurt at the seat of fracture, some, though slight, ecchymosis, and that the fracture was comminuted, seem to point to direct violence. If this is so, I have been unable to trace any similar case from direct violence applied in front. Mr. Lane, who has given great attention to this subject, both in examination of dissecting-room subjects and in production of artificial fractures in the cadaver, says that fracture of the first rib can take place only in one or other of three ways—*a*. indirect violence, the force being transmitted through the clavicle; *β*. indirectly, force transmitted through manubrium; *γ*. directly by means of force applied behind, he records one case.

Another possibility is, that the portion of bone removed might be the result of necrosis following injury; but the condition of the fragment on removal did not suggest this. I might add that, after the operation, some doubt was expressed as to whether or not the fragment might be a piece of ossified cartilage; but Dr. Earl, who kindly examined it for me, states positively that it was a portion of a rib.

A further point suggests itself—namely, that a piece of the rib may have been knocked out, and the fracture, consequently, not completed. This may have been so, but the evidence of a finger in the wound was conclusive that the fracture was complete. No attempt was made to obtain crepitus, as the risk of wounding the subclavian vein or opening the abscess cavity into the pleura was too great. There was no displacement, but the presence of this condition seems to be the exception in these cases. It is interesting to note that up to the present the great vessels seem to have escaped. If above conclusions are right, the case is probably unique, as I can find no record of any fracture of the first rib alone resulting from direct violence applied in front.

ART. XI.—*Notes on Clinical Cases.*[a]

By ALFRED R. PARSONS, M.B. Univ. Dubl., M.R.C.P.I.; Diplomate in State Medicine; Ex-Medical Scholar and Medical Travelling Prizeman, University of Dublin.

I. CASE OF EXTENSIVE EMPYEMA.

CASE.—P. D., aged sixteen, a telegraph messenger, was admitted to the City of Dublin Hospital on 2nd January, 1896. He was carried in on a stretcher about twelve noon. On examination his face was flushed and slightly cyanosed, his respirations were very frequent, and the pulse, which was very small in volume, was about 150 per minute. Inspection of the trunk showed that the right half of the thorax was fuller and rounder than the left, and almost motionless, while the left half was moving actively in respiration. There was well-marked cardiac pulsation as far out as the left mid-axillary line. On palpation the edge of the liver was felt as low down as the umbilicus. Percussion gave, on the right side, an absolutely dull note from the clavicle to the lower margin of the displaced line. This area of dulness extended from one-half to one inch beyond the left margin of the sternum, and from the level of the third rib passed still further outwards, owing to the sinistrocardia. The aortic second sound was not heard till one had crossed the left margin of the sternum; and although the action of the heart was tumultuous, no abnormal sound could be heard over any of its orifices. There were no respiratory sounds audible over the dull area, but the breath sounds were puerile over the left lung.

History of the case.—He states that he first felt ill five weeks before his admission. His illness commenced with great headache and giddiness. Three days later he had severe pain in the left side of his chest, which changed on the following day to the right side. He was confined to bed from the commencement of his illness. Mr. Fitzgibbon, who saw him a day or two after the onset of the attack, considered that he was suffering from influenza, which, a few days later, was complicated by an attack of croupous pneumonia of the lower lobe of the right lung. When P. D. was apparently nearly convalescent from pneumonia, Mr. Fitzgibbon, owing to becoming ill himself, was obliged to hand over the case to Dr. Boyce, who kindly sent him into hospital under my care.

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[a] Read before the Medical Section of the Royal Academy of Medicine in Ireland, Friday, May 8, 1896.

There is no history of any previous illness, and his family history is good.

The severe dyspnœa, the great displacement of the heart and liver, and a pulse of very small volume and almost uncountable, rendered immediate interference necessary. The physical signs indicated the presence of a large effusion into the right pleural cavity. This diagnosis was confirmed by an exploration with a small syringe. The fluid obtained was pus. His condition was such that it was not thought advisable to give him either chloroform or ether for even a few minutes, or to submit him to the pain attendant on the introduction of a drainage tube into one of the intercostal spaces without anæsthesia. It seemed that the least painful procedure would be to introduce a medium-sized trochar and cannula. The site selected was the sixth intercostal space, a little posterior to the mid-axillary line. The pain was diminished by freezing the skin. One end of a piece of rubber tubing was fastened to the cannula on withdrawal of the trochar, while the other extremity dipped into a vessel containing a measured quantity of boracic lotion. The pus flowed away in a steady stream; and, as no air entered the pleural cavity, the expansion of the lung and the return of the displaced viscera were facilitated. From 2 30 p.m. on the day of his admission till 9 30 the following morning over six pints of pus were collected. It was thick, creamy, and without any fœtor. On microscopical examination some capsuled diplococci were recognised, but no staphylococci or streptococci. On this date the urine was of a light straw colour, slightly alkaline, and contained albumen and a sediment of pus corpuscles. The evacuation of the fluid gave almost immediate relief to the patient, his respirations falling to 20 and his pulse to 84. The next day it was noticed that his liver had resumed almost its normal position, while the apex beat of the heart was to be found a little internal to the mid-axillary line. During the succeeding twenty-four hours only about five ounces of pus escaped, probably owing to some obstruction of the cannula by a coagulum, but on the second day after his admission the flow was re-established, and another pint of pus escaped.

The right side of the thorax had now lost its distended appearance, the intercostal spaces were again perceptible, cardiac pulsation was less marked than previously, and the apex beat was an inch nearer its normal position.

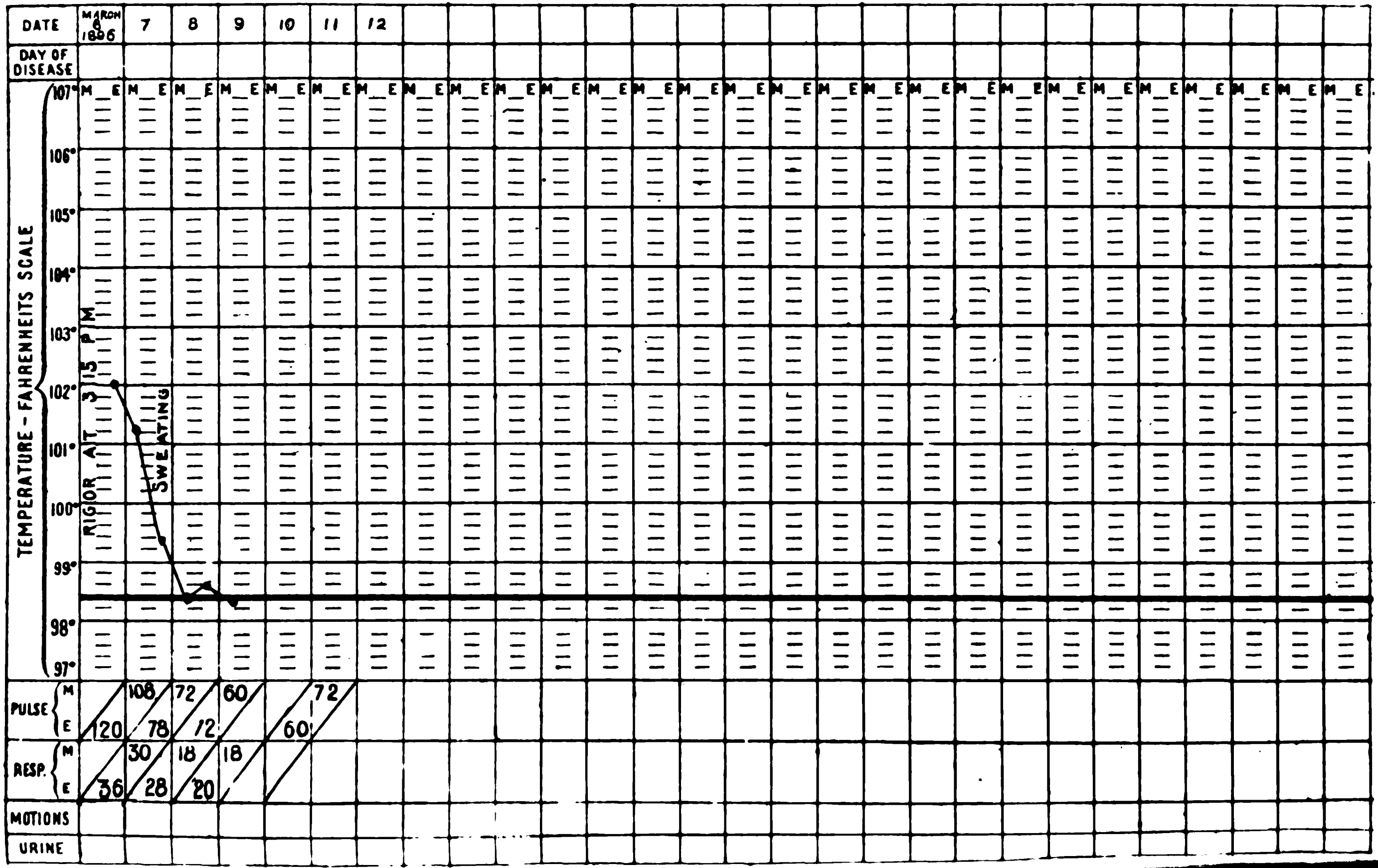
On 7th January there was a slight return of the respiratory sounds in the first right intercostal space, while below the second rib the breath sounds and vocal resonance were almost entirely absent. The pus continued to escape in small quantities, and on the following days the breath sounds were audible in the second right intercostal space. Pus and albumen had almost entirely disappeared from the urine by this date. As the discharge from the cannula was now very slight, and the pus was escaping at its side, it was felt that the time had come for more radical measures than those of which the boy's condition had permitted at the time of his admission. Consequently, on 10th January a large rubber drainage tube was inserted in the seventh intercostal space a little posterior to the position of the cannula. The patient was frequently dressed by my resident pupils, Messrs. Taylor and Cunningham, to whose great care the subsequent satisfactory course of the case is largely due. The tube was finally removed on 16th February. The heart slowly regained its normal position. On 21st February there was good resonance in the first three intercostal spaces, somewhat impaired resonance in the fourth, and a dull note in the fifth space respectively. From this date a marked improvement took place in his general condition, and from being feeble and emaciated he became robust and fat. Early in April he was sent to the Convalescent Home, and some weeks later he was able to resume his work at the Post Office. He was exhibited before the Medical Section of the Royal Academy of Medicine on the 8th May, and then his right side was only very slightly flatter than his left, and expanded remarkably well on inspiration.

The following points are, I think, of some interest in connection with the case:—

1. *The extent of the empyema.*—The right thoracic cavity contained probably, at the lowest calculation, ten pints of pus. Notwithstanding the displacement of the diaphragm downwards, and of the mediastinum and heart to the left, there must have been great compression of the right lung to make room for such a quantity of fluid.

2. *The ætiology of empyemata.*—In the case under consideration the formation of pus was subsequent to an attack

Name. A.B. Age 16. Disease, Croupous Pneumonia. Result. Recovery.



of croupous pneumonia—not an uncommon antecedent of an empyema. In the pus was to be found the diplococcus of pneumonia, which, as Fränkel and Weichselbaum have pointed out, is present in about ninety per cent. of the cases of croupous pneumonia. Other bacteria, especially staphylococci and streptococci, and tubercle bacilli have been detected in the pus of empyemata, but cases excited by these organisms are not so likely to run a satisfactory course as those produced by the Diplococcus pneumoniæ.

3. *Pyuria associated with empyema.*—This is a condition to which I have not been able to find any reference. I have noticed it in at least one other case of empyema following on pneumonia. In the case under consideration at present both pus and albumen disappeared shortly after the evacuation of the fluid from the thoracic cavity.

4. *The treatment.*—It is only necessary to point out that, notwithstanding the great extent of the pyothorax, it was not necessary to resect a rib, and still less to remove portions of several ribs. The wound was frequently and carefully dressed with boracic powder and antiseptic wool. The discharge always remained sweet, and no attempt was ever made at washing out the pleural cavity.

II. CASE OF CROUPOUS PNEUMONIA.

CASE.—A. B., aged sixteen, a schoolboy, was in excellent health till the afternoon of the 6th March, 1896, when, at 3 15 p.m., he got a shivering. He did not complain of this, and walked with the other pupils to the field for athletic exercise, about one mile distant from the school. At 4 p.m. he vomited, and returned to the school. At 5 p.m. he was sent to bed, as he was complaining of pain in the lower part of the left side of his thorax, and also of some cough. At 9 30 p.m. his temperature was 102°, pulse 120 per minute, and respirations were 36. There was no herpetic eruption about the mouth. The tongue was large and slightly coated, and the glands along the posterior border of the right sterno-mastoid muscle were very slightly enlarged. On inspection of his thorax nothing abnormal was noticed. Percussion did not disclose any difference between the two sides, except that the note over the lower part of the left lung behind seemed a little tympanitic. On auscultation nothing abnormal was noticed except a suspicion of a little friction on deep inspiration over the base of the left lung. The cardiac sounds seemed quite normal. Shortly after the examination of his chest was concluded he had a fit of coughing, which resulted in the expectoration of several masses of mucus stained a bright blood-colour in the centre.

He was given milk and soda water, and a mild diaphoretic mixture, and a poultice was applied to his side.

7th March.—Had a very good night and feels better. The pain in his left side is less. There is still no herpetic eruption. On examination the note in the left infra-clavicular region, and also over the base of the left lung behind, was a little more resonant than that obtained in corresponding places on the right side. There was, however, no marked auscultatory difference, nor was any alteration in the vocal fremitus detectable. Temperature, 101·2°; pulse, 108; respirations, 30. He coughed up one rusty-coloured, very tenacious sputum, which was removed, stained, and, on microscopical examination, found to contain several diplococci enclosed in capsules.

At 8 p.m. he was sleeping, and his respirations were 28 per minute. He awoke in a few minutes, and was found to be perspiring. He said that he felt much better, and that the pain was nearly gone. Temperature, 99·4°; pulse, 78. The physical signs on percussion were similar to those of the morning; but on auscultation there was slight intensification and prolongation of the expiratory murmur, with increased vocal resonance over the lower part of the left lung posteriorly. Two more sputa, similar to that of the morning, were expectorated during the day. Still no herpetic eruption.

8th March.—Temperature, 98·4°; pulse, 72; respirations, 18. Very slight herpetic eruption about middle of lower lip. The vesicles are not quite so large as the head of a pin. He slept very well during last night, and has, practically, no pain. The physical signs in his chest are, of anything, less marked than yesterday. At 7 p.m.—Temperature, 98·5°; pulse, 72; respirations, 20. One rusty sputum during the day.

9th March.—Slept all the night; no pain on deep inspiration; herpetic eruption much more marked. Temperature, 98·4°; pulse, 60; respirations, 18. No physical signs in lungs.

10th March.—Up for an hour; feels very well. I could detect no physical signs in his lungs. He expectorates a little white, frothy mucus.

11th March.—Feels perfectly well; is up, and wants to resume his ordinary school work.

The following points will be noted from the clinical records of this case:—

(*α*) Its very short duration. About thirty hours elapsed from the rigor to the completion of the crisis which took place by sweating.

(*β*) The herpetic eruption did not make its appearance till the fourth day of the illness, when the temperature had been normal for over twenty-four hours.

(*γ*) The total number of rusty sputa was about twelve. They were exceedingly viscid.

(*δ*) The absence of dulness, and the presence of a slightly tympanitic note over the upper lobe of the left lung in front, and over the lower lobe of the same lung behind. This note, which, for want of a better name, I have called "tympanitic," is a most valuable sign in pneumonia. Its explanation is difficult, and it has been suggested that its peculiar character is due to the relaxation of the neighbouring pulmonary tissue, especially the alveolar walls, owing to the pressure exerted by the increased size of the portion of the lung which has become consolidated.

ART. XII.—*The Medicine and Surgery of the Homeric Poems.* By JOHN KNOTT, M.A., M.D., Ch.B., and Dip. Stat. Med. (Univ. Dubl.); M.R.C.P.I.; M.R.I.A.; Fellow of the Royal Academy of Medicine in Ireland; &c.

(*Continued from page 127.*)

THE perfect delineation of the Homeric characters, and the unerring truth and regularity with which their crystallised, concrete forms are preserved throughout the whole of the action of the Iliad, have always furnished matter for the admiration of the critical and appreciating members of the commonwealth of letters. And these features of the almost divine inspiration of the author are as well displayed in his pourtrayal of the symposium as in that of the hall of council or of the field of battle. After all, the first consideration for the human, as for every other species of animal, is "what shall I eat; what shall I drink?"—how much soever the quantity and quality may vary with the tribe and with the individual. And the fact that the essential features of humanity are always the same is nowhere more conclusively demonstrated than in the immortal portraits which Homer has drawn.

An old saw of our own Tommy Atkins informs us that John Bull does his best work on the field of battle when his stomach has previously been well filled; while his neighbour Sandy fights best when half hungry, and his cousin Pat when half drunk. Corresponding general rules might be drawn from the conduct of the representatives of the various commonwealths who took part in the Trojan war. In general, however, it must be said that it is recognised throughout the whole of the action of the Iliad that the liberal administration of food—meat and wine—forms an indispensable factor in the equipment of the soldier who is about to take active part in the tug-of-war. Also, that corresponding treatment forms the best restorative for the over-wearied hero who has just returned from the battlefield. Also, that due administration of the same is one of the most important adjuncts to the promotion of wise counsel, and of peaceable arbitration. It may, I think, be said that our Levantine heroes were, on these headings, fairly wise in their generation. There are but few thinking persons—at least of those who are still outside the ranks of the teetotal crusade—who will not allow that the use of a certain proportion of alcoholic beverages is advantageous on those important occasions; and that such are the special circumstances under which the power which alcohol undoubtedly possesses may be utilised with the most beneficial results. "A dinner lubricates business." The failure of the bearer of the flag of truce to soften the heart of the vindictive Coriolanus was explained by his old and experienced friend, Menenius Agrippa, on the hypothesis that "He was not taken well; he had not dined." "It requires fulness of stomach to be brave." So says Mr. Stanley, the great African explorer, a hero who will hardly be accused of over-modesty in the estimation of his own capabilities. The necessity to an overwearied man of liberal refreshment is well known to everyone who has lived even a moderately active life in this world.

The advantage to be derived from the judicious use of wine in council has been appreciated by statesmen in all ages of political and military history. It has been noticed that very few of the great achievements which still form the landmarks of the world's history have been accomplished by "total abstainers." The astute Greeks recognised the importance of wine as a mental as well as a bodily food. The practice of the Persians in this particular was even more systematic than anything we find recorded of their Greek contemporaries. We are told by Herodotus that their public men discussed all matters of national importance alternately drunk and sober. *Μεθυσκόμενοι δὲ ἐώθασι βουλεύεσθαι τὰ σπουδαιέστατα τῶν πρηγμάτων· τὸ δ' ἂν ἅδῃ σφι βουλευομένοισι, τοῦτο τῇ ὑστεραίῃ νήφουσι προτιθεῖ ὁ στέγαρχος, ἐν τοῦ ἂν ἐόντες βουλεύωνται. καὶ ἢν μὲν ἅδῃ καὶ νήφουσι, χρέωνται αὐτέῳ· ἢν δὲ μὴ ἅδῃ, μετιεῖσι. τὰ δ' ἂν νήφοντες προβουλεύσωνται, μεθυσκόμενοι ἐπιδιαγινώσκουσι.* "They are used to debate the most important affairs when intoxicated; but whatever they have determined on in such deliberations, is on the following day, when they are sober, proposed to them by the master of the house where they have met to consult; and if they approve of it when sober also, then they adopt it; if not, they reject it. And whatever they have first resolved on when sober, they reconsider when intoxicated." Those who are acquainted with Irish country life will be forcibly reminded by this record of the "Father of History" of the "match-making" of our Hibernian peasantry.

The Greeks possessed so vivid a sense of the vindictive jealousy of their deities, that they would not, upon any important occasion, begin to eat or drink without first offering a portion—as a sort of sacrifice of the *first fruits*—to them: even Achilles, with all his bullying propensities, was imbued with so proper a sense of the respect due to the Unknowable that he would not, when disturbed by the ambassadors of Agamemnon at midnight, proceed to partake of the entertainment prepared for them till an oblation had been duly offered:—

—— *θεοῖσι δὲ θῦσαι ἀνώγει.*
Πάτροκλον ὃν ἑταῖρον, ὁ δ' ἐν πυρὶ βάλλε θυηλάς.

And the acute and unscrupulous Ulysses, when encompassed by the terrors of his surroundings in the den of Polyphemus, showed corresponding conscientiousness in the discharge of this duty :—

> *'Ενθαδε πῦρ καίοντες ἐθύσαμεν, ἠδὲ καὶ αὐτὰ*
> *Τυρῶν αἰνύμενοι φάγομεν.*

In the subsequent times of more advanced Grecian luxury we are told that frankincense and myrrh were kept continuously burning during the feast, so that the gratification of the sense of smell might be added to the other sensual enjoyments.

Another practice connected with the indulgence in wine at festivals was the use of *garlands.* The idea appears to have been that they kept the head cool, and restrained the heating action of the wine. According to Pliny, the introduction of these festive coronal decorations was due to Bacchus himself; and they were first made with *Ivy.* In later ages they were very generally made of *Ivy* and *Amethystus*; and they then possessed the reputation of preserving the wearers from drunkenness—a fancied attribute to which the latter owed its name. *Myrtle* garlands were also much used, as they received credit for the power of preventing the development of headache. In accordance with this curious notion we find the record of the forward guest in Euripides :—

> —— *στέφει δὲ κρᾶκα μυσίνοις κλάδοις.*

This idea was transmitted to the Romans, who preserved it for many centuries; hence the observation of Horace :—

> Nunc decet aut viridi caput impedire myrto.

The internal use of *κράμβη* was also supposed to be specially preservative against any unpleasant after-effects of indulgence in wine. This vegetable, a kind of cabbage, was supposed to have so great an antipathy to the vine that it would not grow anywhere near it. The peculiarity was explained by an event which took place at the time of the punishment by Bacchus of Lycurgus the Thracian king, who had extirpated the vines of his kingdom, and to which allusion has already been made. The offending mortal was bound hand and foot with vine-twigs by the enraged deity, and cast into the sea. During the operation he, very naturally, let fall many tears; some of which, dropping on the earth, immediately produced this new herb, *κράμβη*.

I have already referred to the story that Amphitryon, King of Athens, was taught by Bacchus how to temper his wine with water. A modified account of this discovery is recorded by Athenæus, who gives the authority of Philomides, a *physician*:—"When Bacchus first brought his vines from the Red Sea into Greece, the people came presently flocking to the sea-side, and fell so immoderately to the liquor, that some became dead-drunk, and some raving mad. Others that came later being driven away by a sudden tempestuous shower, when they returned again, found some of the rain mingled with the wine which they had left in the cups, and drinking freely of it, notwithstanding found no such effects as the former did, but continued sober. This they say is the reason that at the first bringing-in of the *κεκραμένον*, or mixed wine, to the table they used to remember *Δία Σωτηρα*, Jupiter the founder of the rains."

The ancient Greeks do not appear to have ever devised any process of distillation; accordingly, their preparations of wine must have been something very different to what are used in the present day. The writings of Hippocrates show that he was not acquainted with the use of the *retort* or *alembic*. Even at the commencement of the Christian era, distillation does not appear to have been known except in the most puerile form. Some critics, indeed, have gone so far as to assert that the term *κλίβανον* (of Matt. vi. 30), into which the grass was cast, meant a form of "still." This, however, can hardly have been the case; as Pliny, who was nearly contemporary with Christ, describes the process by which oil was obtained from pitch in his day:—"E pice fit, quod pissinum appellant, cum coquitur, velleribus supra halitum ejus expansis, atque ita expressis." This was, surely, distillation in the earliest stage of its embryonic development. But the ignorance of distillation does not appear to have interfered with the fact recorded by the same author, that in his time there were no less than 195 different kinds of wine in use at Rome, of which 80 indeed were of an inferior type, but the others all valuable. Opimian wine of 200 years old was, we are informed, then in special favour among the millionaire gourmands of the Empire City.

Looking backwards through the past centuries, to an age and nation many of whose practices and discoveries had even then been forgotten through long epochs of the world's history, the special process by which Moses reduced the golden calf of his stiff-necked people to a state which admitted of easy deglutition in liquid form—and thus furnished the earliest-recorded preparation of *aurum potabile*—has exercised the ingenuity of many a theologian, as well as of many an alchemist.

But the peculiar genius of the Greeks, although it does not seem to have guided them to the discovery of the process of distillation, appears to have manifested itself in many various methods of improving the taste and flavour of their wines. Flour, kneaded with honey, was extensively used, when the grape-juice was naturally deficient in saccharine matter. Infusions of various flowers, fruits, aromatics, origanum, &c., were freely employed for a similar purpose. Wine mingled with myrrh is mentioned in St. Mark's Gospel; malefactors were given it before execution, to induce a state of *euthanasia*, and enable them to meet the horrors of their fate with factitious fortitude. The Talmud mentions the use of wine mingled with frankincense for the same purpose. A practice formerly prevailed in England of giving a great bowl of ale to condemned criminals on their way to the place of execution. In the free city of Hamburg the condemned criminals were obliged to pass by the Convent of the Blue Sisters on their way to the place of execution. Each was presented at their gate with a glass of white wine by one of those pious ladies; and the glass, when emptied, was dashed on the ground by the executioner, so that it could never be used again—and as a token of regret for the occasion which had brought the wretched mortal to so partake of his last drink upon earth.

Many of the Jewish rabbins have professed to believe that the tree in the midst of the Garden of Eden, the use of whose fruit was forbidden to our first parents as tending to the very undesirable result of universal knowledge, was no other than the vine. Travellers have informed us that the natives of Madagascar believed that the four rivers of Paradise flowed respectively with wine, milk, honey, and oil; that Adam was originally so formed by the Creator as to require no bodily sustenance whatever; that he drank of the river of wine contrary to express commandment; and was, on that account, ejected for ever from the abode of earthly bliss. Some theologians have attributed the wrath of Jehovah, which called down the universal deluge, to the abuse of wine; and find corroborative evidence of their hypothesis in Matt. xxiv. 38; but the proof can hardly be regarded as sufficient.

Owing to the rediscovery, or recultivation, of the vine by Noah, many antiquarian mythologists have endeavoured to identify him with the classical deities, Bacchus and Saturn, respectively; to each of whom the introduction of the use of wine to the human race has been attributed. St. Jerome, in one of his epistles, laments that our great post-diluvian progenitor, when under the influence of wine, allowed his body to be seen in a state of undignified nakedness; which, up to that hour of sensual weakness, had been kept decently covered for a period of six hundred years. There is, however, no evidence to show that his most favoured descendants inherited any distaste for wine on account of the humiliation of Noah and the eternal anathema which continued to hang over the heads of the children of Ham. The practice of mixing various strong herbs and drugs of various kinds with their wine, for the purpose of making it more inebriating, prevailed very extensively among the children of the chosen race. The prophets, of course, often set their faces against it; the strong reprobation expressed by Habakkuk (II. 15) has often been quoted by leaders of the temperance movement. The rabbins attributed the unique punishment of King Nebuchadnezzar in great part to his having entertained Zedekiah at a public banquet, and exposed the anointed ruler of the Lord's own people to open derision by making him drunk with a specially-prepared beverage, with the appearance and taste of which his victim had not been acquainted. The land of promise was not only rich "in milk and honey," but in palm-trees, from the juice of which—rich in saccharine matter—the "strong drink" of the Old Testament is said to have been prepared. Pliny characterises this section of the Roman Empire as "*palmitibus inclyta,*" and the Jericho of mural celebrity was very generally known as the "City of Palms."

Even at an early period of their national history the clever and appreciating Greeks had evidently succeeded in bringing the art of dining to a high degree of refinement. Readers of Athenæus and of Plutarch must carry away vivid pictures of the way in which wit and philosophy were made mutually to illuminate one another at festal gatherings of the best learning and wisdom which the world then afforded. We do not learn anything definite about subsequent head-aches or disordered stomachs; perhaps the ancient process of preparation of the juice of the grape yielded none of the higher alcohols—no fusel oil—to whose poisonous action most of the bad effects of the alcoholic beverages of the present day are, according to competent authorities, largely attributable. The death of Alexander the Great is, of course, attributed to violent excess in wine; but when we come to consider the quantity mentioned—a cup which contained two *congii*—we cannot be surprised at the result: be the contents of the most innocuous nature possible.

At the philosophic feast supplied by Periander, and celebrated by Plutarch, we are told that the Scythian philosopher, Anacharsis, upheld the reputation of his nation by winning and claiming the prize for being first drunk; and emphasised the merit of his victory by pointing out that such was the end at which all aimed in drinking, as racers press forward towards the goal. At the great intellectual banquet given by the Sicilian tyrant, Dionysius, the Greek philosopher, Xenocrates, one of whose victories I have already mentioned, obtained the first prize for emptying of the *congius* cup at a draught. The heaviest drinking of all was, however, that of the funeral games celebrated by

Alexander and his army at the obsequies of his Indian friend and *protegé*, the philosopher Calanus; where the first prize of a *talent* of gold was awarded to one Promachus for imbibing four *congii* of unmixed wine; where thirty of the competitors died on the place, and six others succumbed in their tents a short time after.

Theophrastus informs us that champion drinkers, when about to try their respective powers of imbibition at a prize-competition festival, partook of powdered pumice-stone to increase their capabilities of gastric absorption. It is also recorded that the Romans took hemlock juice for a similar purpose.

Some of the Grecian sages recommended the drinking of three cups, and no more—the first for *health*, the second for *cheerfulness*, and the third for *sleep*. Other authorities dedicated their cups differently—for instance, Suidas arranges the solemn cups of a Greek festival as follows:—*α.* ʽΕρμῃ, β. χαριτίῳ, γ. Διὶ Σωτῆρι. Still other authors have disposed them in various other ways; but all agree in giving the number of sacred cups as *three*—probably from the fact that this was the first perfect number, having a beginning, a middle, and an end; and therefore specially connected with all divine (perfect) things. I shall have further occasion of noticing the importance of this wonderful number in the physics and metaphysics, the divinity and the philosophy of the Greeks. When the limit of three was surpassed, the sacred numeral of three-times-three was generally adopted—the saying ʽΗ τρὶς, ἢ τρις τρια was a household phrase in this connection. Sometimes the three cups were taken off to the honour of the *Graces*; the number nine was often consecrated to devotion to the *Muses*. This custom is referred to in the well-known lines of Horace:—

> Da Lunæ propere novæ,
> Da noctis mediæ, da, puer, auguris
> *Murenæ*. Tribus, aut novem
> Miscentur cyathis pocula commodis
> Qui *Musas* amat impares,
> Ternos ter cyathos attonitus petet
> Vates. Tres prohibet supra
> Rixarum metuens tangere *Gratia*
> Nudis juncta sororibus.

In order to make the sensual enjoyments of their public feasts as perfect as possible, the Greeks took care to provide young persons, whom nature had endowed with the most prepossessing features, to serve up their viands and wine. That this practice was recognised, even at the date of the Trojan war, is evident from the answer of Eumæus to Ulysses on the occasion of his appearance as an old beggar who wished to function as waiter to the eligible young gentlemen who were engaged in paying their addresses to Penelope:—

Οὔτοι τοιόιδ' εἰσὶν ὑποδρηστῆρες ἐκείνων,
Ἀλλὰ νέοι, χλαίνας εὖ εἱμένοι ἠδὲ χιτῶνας,
Αἰεὶ δὲ λιπαροὶ κεφαλὰς καὶ καλὰ πρόσωπα,
Οἵ σφιν ὑποδρώωσι.

—*Odyssey*, XV. 330–333.

In accordance with this elaboration of a system of luxury which aimed at perfect gratification of all the senses, we have Hebe, Goddess of Youth, pouring out nectar at the feasts of the Dii Majores; and Ganymede, the most beautiful of the sons of men, carried off by Jupiter himself to wait at his table.

Their scrupulously careful washings before, *during*, and after meals; their elaborate use of unguents and perfumes; and their artistic display of garlands, were further adjuncts to the perfect indulgence of the appetites, and will be again referred to. This Sybaritic system of the Greeks contrasts strongly with the more stoical procedure of the Egyptians, whose civilisation they are believed to have copied and refined; which adopted the proverbial custom of exhibiting a skeleton, or a part (or a picture) of one, at their feasts; to remind the guests of their perishable existence, while enjoying the best things that the world could provide. In connection with the subject of Egyptian luxury, an incident recorded by Pliny may well be quoted as affording an instructive instance of the moral skeleton which Nemesis (apparently) never fails to exhibit to the most favoured guests, even at the richest tables:—"Et apud Græcos quidem de coronis privatim scripsere Mnesitheus atque Callimachus medici, quæ nocerent capiti: quoniam et in hoc est aliqua valetudinis portio, in potu atque hilaritate præcipue odorum vi surrepente fallacitur, scelerata Cleopatræ solertia. Namque in apparatu belli Actiaci gratificationem ipsius reginæ Antonio timente, nec nisi prægustatos cibos sumente, fertur pavore ejus lusisse, extremis coronæ floribus veneno illitis, ipsaque capiti imposita, nox procidente hilaritate invitavit Antonium, ut coronas biberent. Quis ita timeret insidias? Ergo concerpta in scyphum incipienti haurire opposita manu: En ego sum, inquit, illa, Marc Antoni, quam tu nova prægustantium diligentia caves: adeo mihi, si possim sine te vivere, occasio aut ratio deest. Inde eductum custodia bibere jussit, illico expirantem." Alas for the happiness of Antony! his confidence in the Siren for whom he lost the world!! the groundless suspicions or precipitous dangers which are pretty equally fatal to the best enjoyments that our world can afford!!!

Whether garlands were used in the time of the Trojan war does not appear to be definitely known: they are alluded to by our poet in several places, but they are used by none of his heroes; from which facts Athenæus very judiciously concludes that they had come into use before Homer's day, but were unknown in the times of Achilles and Ulysses. Their great importance in subsequent ages is amply testified by the fact recorded by Pliny in the above quotation, that physicians found it worth while to write volumes on the serious influences which they exercised on the health of their fellow-citizens. When we read in Plutarch of the proverbially luxurious Sybarites, who had their ladies invited to feasts a whole year before, "of purpose that they might have time enough to trim themselves at their good leisure with rich array and jewels of gold against they go," we cannot be surprised that the personal hygiene of the Grecian citizens of that age formed a most important factor in the internal management of the commonwealth. It is easy to understand that such self-indulgence could not contribute to maintain the empire of the world in presence of a growing rival power, whose founder permitted a husband to kill his wife on the charges either of adultery or of drinking of wine; among whom a lady of rank was starved to death when it was discovered that she had picked the lock of the chest which contained the keys of her husband's wine-cellar; and where even the men were forbidden to drink till they had arrived at the age of thirty, and the cultivation of vines was a crime against the State. And as nations, like individuals, have always developed disease with advancing age, we find that the seeds of the decline of the Roman Empire blossomed forth vigorously at the period when Caius Piso and Petronius Arbiter were advanced to the highest positions in the Court of Tiberius—the former for his unrivalled "staying powers," being able to eat and drink without leaving the table, for two days and two nights at a stretch; and the latter for the special tastes which made him the most accomplished caterer for the sensuality of his master; and when Novellius Torquatus was *knighted*, with the cognominal title of *Tricongius*, for drinking at a single draught three *congii* of wine—a quantity represented by nine quarts and three three-eighth pints of our British measure.

But throughout the whole of the most prosperous period of the Grecian civilisation the use of wine in council appears to have obtained special recognition. Nestor, the oldest, wisest, and most experienced of the Greeks, counsels his chief, Agamemnon, to invite the leaders of the various sections of his army to a *banquet*, for the purpose of deliberating on the future management of the war.

> Δαίνυ δαῖτα γέρουσι· ἔοικέ τοι, οὔ τοι ἀεικές.
>
> —*Iliad.* IX. 70.

And we learn, upon the authority of Plutarch, that "the most ancient nations of *Greece* which were ruled under the best lawes, and most constantly retained their ancient ordinances and customs, laid the first foundation of their government and councill of State upon wine; for those guilds and societies in *Candy*, which they called *Andreia*, as also the *Phiditia* in *Sparta*, were instituted and held for privy councills and assemblies of senators, like unto that, if I be not deceived, which even in this city here of *Athens* geeth under the name of *Prytanseion*, and *Thesmothesion*, and not far different from these is that night-assembly of the principall personages, and most politick states-men, whereof *Plato* speaketh in his books unto which he referreth the causes and affairs of most importance, which require greatest consultation." And this author adds at the close of the same paragraph: "they who were indeed the most ancient of all others, called even Bacchus himselfe *Eubulus* [Εὔβουλος, *i.e.*, a wise and prudent counsellor], as if they had no need at all of *Mercury*, and in regard also of him, they attributed unto night the name of Euphrone [Εὐφρονή, *i.e.*, inventive or considerate]." "A Grecian I am sure he was," observes Plutarch elsewhere, "that said :—

Γαστρός ἀπὸ πλείης, βουλὴ καὶ μῆτις ἀμείνων.

"That is to say—

"From belly full, best counsell doth arise,
And surest plots men in that case devise."

The physical as well as the mental strength of some of the coarser types of Homer's heroes would appear to have been promoted by the liberal use of wine. Idomeneus led in the van *like a boar in strength* :—

Ἰδομενεὺς μὲν ἐνὶ προμάχοις συῒ εἴκελος ἀλκήν.
—*Iliad*, IV. 253.

For which he was complimented by his chief not only on his prowess in the field of battle, but (with more apparent sympathy) on his capabilities at the banquet :—

Εἴπερ γάρ τ' ἄλλοι γε καρηκομόωντες Ἀχαιοὶ
Δαιτρὸν πίνωσιν, σὸν δὲ πλεῖον δέπας αἰεὶ
Ἕστηχ', ὥσπερ ἐμοί, πιέειν, ὅτε θυμὸς ἀνώγοι.
—*Id. ib.* 261-3.

The advice of the affectionate mother of Hector to her exhausted son to recruit his strength by the use of wine has been already quoted (at the opening of this section); so has that of the cautious and experienced Ulysses—in which he dissuades the headstrong and uncalculating Achilles from urging his forces to attack the Trojans till recruited with food and wine. "For a man unrefreshed by food, would not be able to fight against [the enemy] all day to the setting sun; for although he might desire in his mind to fight, yet his limbs grow languid, and thirst and hunger come upon him, and his knees fail him as he goes. The man, on the other hand, who is satiated with wine and food, fights all day with hostile men, the heart within his breast is daring, nor are his limbs at all fatigued before that all retire from battle."

The practical application of the results of modern physiology will tend in the main to corroborate the untutored observations of the inspired poet. The experiments of Dr. Beaumont on the stomach of Alexis St. Martin, showed that good preparations of alcohol, when properly diluted with nutritive liquids, in presence of solid food promoted the secretion of a healthy, active gastric juice; while the more concentrated preparations acted as irritants on the unprotected mucous membrane, and stopped the physiological secretion altogether. And so the *aqua vitæ* of Geber—to whose practice we appear to owe the discovery of distillation, and whose mystically-phrased theory incited his aggravated readers to add the word *gibberish* to our English vocabulary—becomes the *aqua mortis* of Friedrich Hoffmann, the proverbial propensities of whose countrymen enabled him to see more nearly and clearly all its most pernicious effects.

The importance of the consumption of alcohol to the rulers of the world in the present day is at least as great as it was in the days of the siege of Troy. It is almost startling to reflect on the probable results of the instantaneous extinction of all forms of alcoholic stimulants, and of the revenues which are derived from the utilisation by tradesmen and by politicians of the tendency of unhappy humanity to brighten the too sombre tints of life by their use. Our rulers still prey upon the original weaknesses of our nature; and well know that, in spite of the efforts of the few, the majority will always be found willing victims. And if a cosmopolitan autocracy were now allotted to an Arabian Caliph who would utilise his power for the complete destruction of all literature, there can be little doubt that the same arguments for and against the use of alcoholic stimulants would again be found occupying the attention of the human race, centuries after the name of Homer had been forgotten.

(*To be continued.*)

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Mental Physiology, especially in its relation to Mental Disorders. By T. B. Hyslop, M.D. London: J. & A. Churchill. 1895. 8vo. Pp. 552.

In his introduction our author seems to adopt the definition of Hack Tuke. "Mental physiology is one division of the great department of physiology. It seeks to discover the bodily organisation with which mental operations are connected." But it disclaims any attempt to explain—what is probably inexplicable—the essential nature of the connection. "Mental pathology must be viewed from two sides—namely, its psychological and its physiological side; and our hope is that we may bring the two series of phenomena, as it were, "face to face," without in any way rendering our position insecure by unnecessary hypotheses as to the ultimate cause and effect." Unfortunately, "in the light of existing knowledge we are compelled to approach the subject by two roads. Physiologists and psychologists must perforce study their respective subjects, to a certain extent, apart and in their entireties. The fundamental disparity of physical and psychical activity renders the explanation of the one impossible from the study of the other."

Having laid down the limitations of his subject, Dr. Hyslop proceeds in his first three chapters to treat in a summary way of the anatomy and physiology of certain portions of the nervous system. These chapters are well "up to date" as to matter, and we have no objection to make to their arrangement, save that we think the author is a little too much inclined here, as elsewhere, to balance and set the views of one authority against another without giving us clearly to understand which he adopts. His description of the nervous tissues begins with that of the nerve-cell, and on this foundation appears to be built up everything, both of description and theory, that follows; but we find it laid down under the anatomy of the cortex that "the term nerve-cell is now commonly used to denote not only the body of the cell or the part immediately enclosing the nucleus, but all the processes of the cell," while the "physiology of the nerve-cell" begins thus:—"The nerve-cell's most important function is that of nutrition, and the presence of a nucleus seems to be essential to this. When a nerve-fibre—*i.e.*, a process of a nerve-cell—is cut, no matter whether in its normal state, it conducts impulses to or from the cell—the part which is cut off from the parent cell must die. This nutritive function of the nerve-cell has been insisted upon by Nansen, who believes that the cell body has no other function than that of effecting the nutrition of the whole cell, and more particularly that of the axis cylinder process." This mode of expression wants clarification. To a reader whose knowledge was not as extensive as Dr. Hyslop's, or as thoroughly digested as we feel his to be, some confusion of mind would be liable to result from the double use of the term nerve-cell. Most neurologists have hitherto been disposed to consider Nansen's views highly heretical, but at least they are of sufficient importance to deserve more than a casual mention, for the question of whether the nerve-cell-body is a terminus or a mere refreshment room is a very fundamental one, essentially affecting the very structure of a rational physiology of nervous function.

The fourth chapter deals with the localisation of the mental faculties. This is, no doubt, the most obscure department of nervous physiology, and it would be hardly fair to expect either new views from our author, or very satisfying statements of old views, all of which are shadowy and unsubstantial in the extreme. Dr. Hyslop is a conscientious student of what has been done, or rather, perhaps, of what has been said, in this department, but he does not seem prepared to swear to the words of any master, and the sense of indecision produced is rather painful on the whole. Now and again we see indications of haste in compilation, as in the following passages:—

"*The frontal lobe* contains a non-excitable area of cortex, which is situated, &c." [Here follows a topographical delimitation]. "This part of the brain is considered by most investigators to be the seat of the highest mental processes. Meynert believes that within the *fore-brain* sensitiveness is converted into actual sensation." [Here a quotation from Meynert on the relation of the fore-brain to the other parts of cerebral mechanism]. "Munk regards the entire frontal lobe as a sensory sphere; and others have pronounced the frontal region to be the exclusive seat of intelligence. Meynert corroborates the view of Munk, and adds that consciousness, and intelligence also, which are evolved in the fore-brain, depend upon a mechanism, the minute details of which, if understood, would enable us to restrict intelligence to the fore-brain . . . . Meynert holds . . . . that intelligence is not limited to definite cortical areas . . . . but results from the *activity of the entire fore-brain*" (pp. 127, 128). A little further on our author says (p. 134): "We may now return to the consideration of the *præfrontal lobes*, which have been regarded as especially the seat of intellectual operations." From all this, anyone unacquainted with Meynert must conclude that when that author spoke of the fore-brain (Vorderhirn, *i.e.*, prosencephalon) he meant the frontal lobe!

Chapter V. deals with Mind, and the scope and methods of the study thereof. The subjective and the objective methods are discussed, and the logical method. "If we are to argue correctly and place this science on its right basis, we cannot afford to dispense with logic. We must have a science based upon proof and evidence, and not a science of belief." True; but this applies equally to every other science, or branch of science. To be reasonable in reasoning about reason is no whit more essential than it is to be reasonable in reasoning about shoe-leather. The special interest that logic has for the student of mind consists in this, that, together with mathemathics and the essential structure of language, it seems to furnish evidence that in certain matters we *must* think in certain ways, whether this indicates a correspondence between the phenomenon of our thoughts and some "noumenon" external to us, or whether it merely shows the limitations under which we think. Is our usually sober author poking a little fun at the lights of his profession when he says: "No doubt there are many gifted men in our profession who are able to dispense with the recognised *formulæ* of logical and inductive science. They may possess a natural aptitude or intuitive perception of the principles of logic, and furnish us with recondite principles or ready generalisations, without a knowledge of the elements of the syllogism?" If not, we would remark that it is an old observation that

> " . . . . all a rhetorician's rules
> Serve only but to name his tools,"

and the same may be said of a logician. Many a fine reasoner must have lived and reasoned before the name of induction was known, but we are like Malvolio, we think nobly of the soul, and we do not think that even the most gifted men have it in their power to reason outside its common laws. And have we not been speaking prose all our lives without knowing it, Monsieur Jourdain?

In Chapter VI., on Sensation, the main facts of psychophysics are gone into, while perception is dealt with in Chap. VII. In these sections Dr. Hyslop again adopts the rather unhappy method of stating the theories of his predecessors with such conscientious care that it is not always easy to be sure which is his own view.

Chapter VIII. treats of sensory perversions. Among the *reverse illusions of orientation* the commonest is not mentioned—namely, the curious sensation which a man experiences in travelling at night that the train is going in the reverse direction to the real one. "Secondary sensations," as they have been called, are discussed, and the views of Bleuler and others are mentioned. The following chapter is devoted to hallucinations. It is rightly pointed out that "it is often extremely difficult to distinguish between illusions, pseudo-hallucinations, and true hallucinations."

The connection of the various forms of hallucination with each other, and their respective associations with different forms of mental disease, are detailed, and the forms of sense perversion occurring in the insane are carefully enumerated. The psycho-motor hallucinations of Séglas perhaps hardly receive the attention they deserve, and it is not noted that several cases quoted in other connections belong to this class. Neither are the bearings of Cramer's views with regard to the muscular sense on the question of psycho-motor hallucinations dealt with.

Chapter X. treats of the mental processes of attention, conception, judgment, and imagination. These are discussed in the author's usual careful way, but we are of opinion that he gives too brief a space to judgment, the most important of all the phases of mental action from the point of view of psychiatry.

Chapters XI., XII., and XIII. deal respectively with Memory, the Feeling, and the Will.

We are, of course, absolutely in the dark as to the real physiology of any of these phenomena, and pathology has only given us clinical facts without throwing any light on the fundamental conditions of the problem. Making every allowance for the necessary difficulties both of thought and expression in these spheres, and giving full value to every working hypothesis, we are inclined, nevertheless, to protest against the too free use of certain vague forms of speech which were at first used to point out a doubtful analogy, and have come to be regarded as representing facts in regions where we really know nothing. Do the people who talk of the storing up of impressions, as in some way explaining memory, really mean that an impression—*i.e.*, a metaphysical abstraction—is stored in a cell as you would store a sack of wheat in a granary? If not, what is the meaning of "stored up?" Nor if we substitute "sensation" for "impression" will it help us. Before we can imagine anything being stored in a cell, or in anything else, indeed, we must have an idea what the thing to be stored is. Now, in the present state of our knowledge (or ignorance), we can only conceive the effects of the change which is transmitted from periphery to centre, as some change or re-arrangement of atoms, molecules or grosser constituents in the latter. Conceive of this change, whether chemical or mechanical, as being stored up or registered, and you perceive how hopeless is your task. The integrity of certain nervous structures is apparently necessary for sensation. We, therefore, conclude that sensation takes place in these structures. We by no means know that it is so. Now memory, whether we limit ourselves in the narrowest way to the memory of sensation, or deal with memory in a broader sense, is a store, a register. Therefore we are to conclude that the neuron, or assembly of neurons, is also a store. Is it not evident that we are proceeding to add up fractions that have no common denominator? We may argue that the mind accumulates and retains impressions, therefore storage must be provided in its physical equivalent; but we may quite as logically say that we neither know nor can conceive any physical apparatus for this storage, and that therefore memory does not exist.

We thankfully note that when Dr. Hyslop is speaking for himself he avoids a deal of the jargon which passes for psychology at the present time. We hear very little of "discharges" and "currents." These phrases are merely metaphorical, being founded on the analogy of an electric battery—an analogy which modern investigation has shown is not very applicable to the nervous system. "The mere terms 'current' and 'discharge' are held to be sufficiently explicit in themselves . . . Let the student set himself the task of explaining in detail the physical formulæ of the so-called 'higher feelings.' . . . Then let him reduce to terms of discharge and nerve currents those feelings associated with moral judgments and moral relations, conscience, duty, or obligation. . . ."

In other words, it is really far better to use metaphysical terms for metaphysical facts. The mere adjustment of physical terms to facts that are not physical in no way explains the latter—it is a darkening of knowledge by words without wisdom.

The last chapters in the book, XIV. and XV., are, we consider, its best part. They treat of the factors of the insanities, and here the extensive experience of the accomplished clinical physician gives a definiteness to his work which is wanting in the more theoretical branches which precede. Having glanced at the developmental processes of microkinesis and micropsychosis in the infant, Dr. Hyslop proceeds to consider the factors of the insanities under the heads of internal and external. In dealing with original disposition, he dwells, perhaps, at too great length on what he rightly calls the farcical writing on the subject of genius and its connection with insanity. Nowhere, certainly, are the good temper and moderation of our author more conspicuous than in his references to Lombroso's ridiculous catalogues of lunatic geniuses—the very *reductio ad absurdum* of pseudo-science—in which Gogol, Napoleon, Donizetti, Alexander the Great, Dostoieffsky, Cæsar, Praga, Swedenborg, Loyola, Luther, John Stuart Mill, and many others are huddled together under the common rubric of genius with lunacy, or drunkenness, which, by the way. appears to be regarded for the present purpose as identical with insanity! Many of the geniuses never seem to have before been recognised as such by a world which, as somebody says, "knows nothing of its greatest men." The claims of most of them to lunacy are as shadowy as the claims of some of them to genius, and, indeed, are mainly founded on that old wives' gossip which seems to pass for evidence with a certain school of criminal anthropologists. Poor Charles Lamb probably was a man of genius in spite of the mean and brutal sneers levelled at his craziness by the bilious savage, Carlyle. Lamb was also, unhappily, at one period of his life insane, but Lombroso's assertion that he was an alcoholist is untrue.

With regard to the prattle of the degeneration-mongers, Dr. Hyslop ventures on a little righteous vigour:—

"Were we to resort to the *argumentum ad hominem*, we might say that these advocates of degeneracy are in reality degenerate advocates. They themselves adopt that weapon of rhetoricians and demagogues, the *argumentum ad populum*; in that they address themselves to the masses at large, and seek to excite their feelings by arrogant and insulting biographical details which tend to prevent the formation of a dispassionate judgment upon the matter in hand." The following is excellent—"It must be remembered that the pursuit of a natural bent is not infrequently attended by pre-occupation, sleeplessness, nervous exhaustion, constipation, dyspepsia, and other effects determined by close and sedentary work. Hence many of the affections described as being co-incidental with the efforts of genius, are in reality mainly caused by the efforts themselves. Again, various bodily infirmities or diseases may be determining factors in favouring the pursuit of a hobby, be it scientific or otherwise."

From a small atom of truth medical writers are only too apt to raise a mountain of inference which they again mistake for facts, it being the blemish of our science that it does not allow of being brought back at every step to facts. Hence has arisen the amazing rubbish-heap of "degeneration," and, in the same way, astonishing beliefs about heredity have crept in, and have been almost universally accepted, with, as we must say, little regard to the plain truths that are before the eyes of every one. Dr. Hyslop's common sense has induced him to sound a note which we hope will recall some wanderers to the fold of reason. If we carry back our observations, he tells us, "to the third line of ancestry only, and reflect that there are eight great grandparents to every individual, we get into a maze of ignorance and confusion out of which it is well nigh impossible to extricate ourselves. Every individual must die sooner or later of something, and a physiological decay without evidence of disease is a rarity. In short, unless careful, we are apt to attach undue importance to family histories, and more especially, perhaps, when the members affected are remote from the individual in question."

The relations of phthisis, scrofula, gout, rheumatism, syphilis, diabetes, and intemperance, in the ancestry to insanity in the descendants, are discussed. The probability that many cases which simulate hereditary transmission are really cases of contagion in the tuberculous affections renders quite uncertain the analogy between the heredity of insanity and the heredity of phthisis, which has been relied upon as an argument in favour of the conditions being to some degree convertible.

Psychopathic epidemics are discussed at some length, and among others the witch-hunting epidemics of the Middle Ages and the period of Puritan supremacy. Among the atrocities of the witch hunt, which go far to make the modern student loathe his species, one remarkable fact stands out. The unhappy wretches who were accused of ridiculous and impossible crimes generally confessed them! From a casual reference to confessions Dr. Hyslop seems to think these were always extorted by torture. They often were, but more generally not, nay, they were not rarely quite voluntary, and in many cases these confessions seem to have been the sole evidence against unhappy creatures who manifestly were animated by a morbid desire to die a hideous and shameful death. The witch marks, too, are an interesting point, probably worthy of more study than, as far as we know, they have ever received. It is, in our opinion, probable that the witch marks were originally patches of skin affected with hysterical anæsthesia.

With regard to the influence of religion, Dr. Hyslop seems thoroughly at one with Gasquet, who looks upon religion as a very potent agent for the prevention of insanity, as well as under certain circumstances for its production. The final chapter of the book contains an account of the bearing of the physiological periods of life on the production of insanity, and of various bodily affections as factors of mental unsoundness.

Two appendices close the work, the first on hypnotism, the second on the methods of psycho-physics.

On the whole, we can commend this book to our readers as a learned and laborious work containing an immensity of information in a comparatively small space. It occupies a place which no other work in English has yet filled. In one way it does not please us. The author's modesty has not allowed him to assert himself as much as we should have wished, and the student will occasionally feel that instead of an impartial statement of both sides of the case he would have preferred the leading of a strong charge. But where there is so much uncertainty it is perhaps wise to avoid dogmatism.

The printer has not always done Dr. Hyslop justice. Thus we note on page 434 "cocitas" for "cæcitas;" on page 134 "prœfrontal" for "prefrontal;" "didactic union" on page 458, and "diatactic union" on page 459. For certain words the author himself is responsible. A "gifted man" is very journalistic English; "exhaustive disease" for "exhausting disease," which occurs several times, is, we venture to think, very incorrect, and so, no doubt, is the use of "pontine" for "pontal"—an all too common error. If we say "pontine" we should say "frontine," and, as the author who pointed this out many years ago has told us, the Pontine Marshes have nothing to do with it. On the other hand, the Sirbonian bog has some analogies, if not with the pons at least with the many views held with regard to its functions.

Abdominal Tumours and Abdominal Dropsy in Women. By James Oliver, M.D., F.R.S. (Edin.); Physician to the Hospital for Women, London; F.L.S., &c., &c. London: J. & A. Churchill. 1895. Cr. 8vo. Pp. 289.

In this work, printed in the largest of type and with the widest of spacing—reminding one of the rivulet of ink meandering down a margent of white—we find little for criticism and notice. The cases are numerous and fairly detailed, but there is no definite standpoint which one can make the basis of criticism. Of surgical and pathological detail there is none; so that the book is of interest neither to the surgeon nor to the pathologist. If the physician (we note the author does not call himself surgeon) can derive either profit or interest from this collection of cases he is welcome to the work.

Text-Book of Operative Surgery. By Dr. Theodor Kocher, Professor of Surgery and Director of the Surgical Clinic in the University of Bern. Translated, with the special authority of the Author, from the Second Revised and Enlarged German Edition, by Harold J. Stiles, M.B., F.R.C.S. (Edin.), &c., &c. With 185 Illustrations. London: Adam and Charles Black. 1895. Pp. 303.

Professor Kocher's name is so well known amongst British surgeons that many will be glad to possess his work on operative surgery in an English edition. And here we may state at the outset that the book is published in a style worthy of the author, and that Dr. Stiles deserves the highest credit for the accuracy and ease of his translation. The pages are profusely illustrated—many of the figures occupying the whole page—and as a rule they exhibit a praiseworthy clearness and accuracy. But we think a little more sense of proportion would have added to the value of the illustrations, some of them being quite out of proportion to the importance of the operations; and, *per contra,* important procedures being confined to the smallest of diagrams. This especially applies to the figures showing the lines of incision for the ligation of arteries and the exposure of nerves. Thus, two pages are occupied with full-sized plates, showing the lines of incision for eleven operations on the lower extremity, between the knee and ankle, none of which is practised with any frequency on the living subject.

The work is most essentially the work of a practising surgeon, and bears on every page the impress of the author's own experience and modes of operating—deviating thus in many points from those text-books which adhere more strictly to the classical and authorised methods. Yet it is just this stamp of the author's individuality that is one of the most interesting and suggestive features presented to us. Reference is of course made to the work of others, mainly German; of English surgery we fail to find any mention, but it is given to us here filtered through the personal experience of the writer.

To come to the book itself. It is divided into four parts, each of these being subdivided into a number of sections dealing with the different regions. Part I. deals with Principles, and here we find discussed such questions as Anæsthesia, Wound Treatment, and the Direction of Skin Incisions. As regards the first we may merely remark that the author shows a wise preference for ether in all cases except those where it is specially contra-indicated. For operations of very short duration bromide of ethyl is recommended, The subject of the treatment of wounds is rightly regarded as of the first importance in operative surgery, and is, accordingly, very fully dealt with. Professor Kocher is a firm believer in aseptic surgery, though some of his methods differ from those more universally practised, and do not commend themselves to our judgment. To these we shall specially refer. Recognising that our most powerful aid to the prevention of sepsis is heat, Kocher recommends and adopts the sterilisation of all instruments, sponges, and dressings by this means. Instruments are boiled, according to Schimmelbusch's plan, in 1 per cent. soda solution; and gauze, swabs, and silk are completely sterilised by boiling for half an hour in Tavel's solution, which contains 75 per cent. of common salt and 25 per cent. of dried carbonate of sodium. It may be here remarked that "a boiled salt-soda solution affords a completely sterile and non-irritating fluid for irrigating and cleansing wounds." Dr. Kocher abandons the dry dressing in favour of gauze boiled in this solution, regarding it as the "best material to place directly upon the wound." We cannot agree with this preference for moist over dry dressings; but we must admit its universal applicability, especially in cases where the surgeon is called in to operate in out-of-the-way places, where the full advantages of dry sterilised dressings cannot possibly be attained. For dressings and sponges the author invariably uses gauze; for ligatures and sutures never anything but silk, and always glass drainage tubes. An indication of primary importance to secure rapid healing is properly insisted on—"*the avoidance of any accumulation of fluids between the wound surfaces*"—and this is attained in two ways: by accurate deep and superficial suturing, so as to ensure perfect apposition of the wound surfaces, and, where this is not possible, by the method of "open wound treatment."

Much space is devoted to the direction of skin incisions, Langer's cleavage lines being mainly followed, though the author himself advocates one most glaring deviation from these rules—viz., a transverse incision in thyroidectomy.

Part II. deals with Special Operations which are treated regionally, the first being the cranium. And here it may be mentioned that the directions given for the ligature or excision of the smaller arteries and nerves are much more elaborate than are to be found in any English text-book—unnecessarily so we must confess. However, should such operations from any cause be rendered necessary, the surgeon will here find fuller details with which to refresh his memory. As regards the operations on the skull extremely complicated measurements are given, which, while being confusing, do not seem to us to present any advantages over the excellent methods of Reid and Horsley. We may note that due credit is here given to the latter investigator in connection with the localisation of cerebral functions—a point that deserves imitation by other Continental writers. Ligature of the lingual artery is carried out through an oblique incision instead of the usual curved one, but the procedure seems to possess little advantage. One sentence we must quote, so many of the older surgeons taught ligature of the common carotid in cases of hæmorrhage. "All hæmorrhages in connection with the head, with the exception of intracranial and orbital hæmorrhages, can be arrested with certainty and without danger by *ligature of the external carotid*. The common carotid artery must never be tied instead of the external carotid, since it can never be predicted whether or not—especially in older persons—a permanent disturbance of the circulation in the brain will be the result." This deserves all the emphasis given to it by the author; the simplicity of ligature of the common carotid has often we fear swayed the judgment in the choice of the operation. Many serious results have followed ligature of the common carotid; whereas ligature of the external carotid, a hardly more difficult procedure, has never been followed by the same grave consequences, and, given a certain anatomical knowledge, has attained the necessary results. Be it clearly understood that in many cases ligature of the common carotid is the only possible surgical procedure.

Part III. deals with Resections and Excisions; and it may here be stated, that while 190 pages are devoted to the operations on arteries and nerves, only 43 are given to these important and far more frequent procedures. The same remark applies to Part IV., which treats of Amputations and Disarticulations in 30 pages. This is rather disproportionate for a book claiming to be a text-book of operative surgery; but so far as Professor Kocher's descriptions go they are admirably full and completely illustrated. In resection of the hip-joint the author recommends an angular incision, the apex of the angle corresponding to the great trochanter and being directed forwards. This method presents no advantages over the semicircular incision behind the trochanter which we have recently employed, and by which the upper extremity of the bone can be easily and speedily removed. Also in disarticulating through the hip-joint no mention is made of the methods of Lister and Jordan, which have been attended with such successful results in these countries. It seems that no matter how prone English surgeons are to run after German methods in the vain hope of finding salvation therein, they need not expect to find recognition of their work at the hands of German surgical writers. The German mind having absorbed Listerism to the full has no capacity for any further English scientific progress in the present century.

Epidemic Ophthalmia, its Symptoms, Diagnosis, and Management, with Papers upon allied subjects. By SYDNEY STEPHENSON, M.B., F.R.C.S. Edin. Edinburgh and London: Young J. Pentland. 1895. 4to. Pp. 278.

THE author, in his preface, states that there is reason for believing that epidemic ophthalmia—in some of its bearings, at any rate—is not generally understood. Yet, as involving wide economic and social interests, it is, apart from its purely scientific aspect, a subject of no little importance.

The malady has worked havoc in many of our parochial institutions, and thousands of pounds have from time to time been expended in order to stay its ravages and to stamp it out of existence. But, for all that, this preventable disease has not hitherto been prevented. Then there is the fact (lately much insisted upon) that our better-class schools are not exempt from its attacks. Lastly, the ordinary text-books contain but scant reference to the disorder, so that medical officers have to glean their information from a wide and toilsome field of literature. Under these circumstances small apology is needed for bringing under the notice of the medical profession a series of essays dealing with various sides of this important question.

The pathological aspects of ophthalmia are alluded to only in so far as is deemed necessary to render the text intelligible to the ordinary professional reader, as it is his intention, at some future date, to publish a separate contribution dealing with this branch of the subject.

This most valuable contribution to ophthalmic and sanitary science is divided into four parts and an appendix. They treat of—

(1). Epidemic Ophthalmia: its Symptoms, Diagnosis, and Management.
(2). A Clinical Inquiry into the Prevalence and Significance of the Follicular Granulation of the Conjunctiva.
(3). The Treatment of Trachoma and its Complications.
(4). The Treatment of Follicular Conjunctivitis.
(5). Lavatory Arrangements.

After discussing fully and fairly the various aspects of the subject he concludes "that the different varieties of contagious ophthalmia spread almost always, if not altogether, by contact. We must take care, therefore, that patients are provided with beds, clothes, towels, sponges, flannels, and washing utensils of their own, and that they are not permitted to mix with unaffected persons. Nurses and those employed about the sick must be told plainly of the nature of the ailment they are attending and of its modes of transfer. They must be made to keep their nails pared close and their hands scrupulously clean, and they must never take an infected child into their arms if it can possibly be avoided. Great care must also be expended to ensure the absolute cleanliness of all instruments and ward appliances."

From the facts and figures brought forward in Section (2) he concludes—

I.—In man—as in many of the lower animals—the so-called "follicular granulation" is visible to the naked eye. It is present, to an extent that varies with the individual, in almost all persons under twenty years of age.
II. It does not constitute the initial stage of the specific disease trachoma.
III. It is not satisfactorily proved to be the immediate and direct outcome of an unhealthy environment. It cannot, therefore, be regarded as any index to the nature of the surrounding sanitary conditions.
IV. The evidence that it predisposes to trachoma is by no means decisive.

V. The follicular granulation forms, in all likelihood, an expression of what (for want of a better name) may be termed the "adenoid activity" of young subjects. It is strictly comparable with follicular projection of the pharynx, and, also, with the solitary follicle of the large and small intestine.

After discussing in detail all the various methods of treatment he summarises this division of the treatise as follows:

1. Both surgical and escharotic means have been practised in trachoma since time immemorial.
2. For general purposes, bluestone and lunar caustic are the most trustworthy escharotics.
3. In properly selected cases surgical treatment should be employed, but not to the exclusion of other therapeutic measures.
4. "Expression" is an operation of great value, and deserves a permanent place in the treatment of trachoma.
5. Excision of the upper *cul-de-sac*, performed on the principles laid down in this essay, is free from danger, immediate or remote. It is worthy of trial in cases of trachoma that resist ordinary methods of treatment.
6. A combination of surgical and of escharotic methods not infrequently forms the speediest, the safest, and the most rational means of attacking the disease.

The whole treatise is admirably written, well illustrated, and the views of others, for the most part, are given their full weight. We do not, however, consider that it is correct to state (as the author does on page 230) that where mucous membrane has been transplanted to the lid margin for the cure of entropion and trichiasis the wound "heals, nevertheless, wholly or in part, by the production of cicatricial tissue, which, by its innate tendency to contract in the course of time, displaces once more the cilia." We have seen hundreds of cases where, after years, no evidence whatever of contraction could be observed after mucous membrane transplantation; and indeed it is quite exceptional to find any tendency in that direction when the transplantation is properly performed in the first instance.

We strongly recommend this book to the notice of all those who have to do with epidemic ophthalmia, and especially in such places as schools, workhouses, barracks, &c.

Micro-organisms and Disease: an Introduction to the Study of Specific Micro-organisms. By E. KLEIN, M.D., F.R.S., Lecturer on General Anatomy and Physiology in the Medical School of St. Bartholomew's Hospital, London. New edition, revised, with two hundred and one illustrations. London: Macmillan & Co., Ltd. New York: Macmillan & Co. 1896. 8vo. Pp. 595.

THE first edition of this admirable book appeared in 1884. It was reprinted, with additions and alterations, in 1885. The second edition was issued in 1886, and now (after an interval of ten years) we gladly welcome this new edition of what all must regard as a standard work on Bacteriology by a skilled writer.

As Dr. Klein points out in his preface, a phenomenal extension of the study of bacteriology and its applications to Public Health and to medical and surgical practice has taken place within the past ten years. He says: "The remarkable extension of our knowledge of the chemical activity of Micro-organisms, the results achieved in the battle against infectious diseases by means of accurate bacterioscopic analysis and diagnosis, and by the brilliant application of serum therapeutics, are matters obvious to the Biologist, the Chemist, the Sanitary Expert, the Physician and Surgeon."

The general form of the book remains unaltered, but the author has managed to give in the added pages a clear account of the more important advances made in our knowledge of the relation of micro-organisms to disease within the last decade. For example, we have now a chapter (XIX.) devoted to "Protozoa causing Disease," in which Dr. Klein tells us all about Laveran's *Plasmodium malariæ*, Lösch's *Amœba coli* of dysentery, flagellate protozoa, psorospermia or Coccidia, and other similar bodies.

The following two chapters are also full of new material. In Chapter XX. the author treats of antagonism amongst bacteria, while in Chapter XXI. he has entirely recast his account of the relation of saprophytic to pathogenic organisms. He accepts Metchnikoff's doctrine of phagocytosis in a very limited and qualified sense. "The conclusion," he writes (page 566), "which we think justified in making is that the phenomenon of mechanical phagocytosis in Metchnikoff's original sense is in some cases unquestionably a sign of weakening and destruction of the microbes, but it cannot be the primary and essential part to which the resistance and immunity of the tissue or the animal is due." He adds: "Spontaneous resistance or immunity is primarily and essentially due to an inimical action of the blood and tissue or tissues *per se* on the microbe."

This edition is more than double the size of that of 1886. It runs to 595 pages, compared with the 267 which made up its predecessor. Nevertheless, it is of handy size, and contains a mine of information.

The Diagnosis and Treatment of Diseases of the Rectum. By WILLIAM ALLINGHAM, F.R.C.S. Eng., and HERBERT ALLINGHAM, F.R.C.S. Eng. Sixth Edition. London: Baillière, Tindall & Cox. Pp. 485.

ALLINGHAMS' work on the rectum is so well known that any extended notice of the sixth edition appears uncalled for. The character of the work remains much the same. It is rather a practical record of the methods of Mr. Allingham and Mr. Allingham, Junior, than a systematic work on modern rectal surgery, and both in describing the work of others and in recent pathological work is hardly up to date.

Diseases of the Rectum and Anus and Contiguous Textures. By S. G. GAUR, M.D.; with two chapters on Cancer and Colotomy, by H. W. ALLINGHAM, F.R.C.S. London. Philadelphia: The F. A. Davis Company. Pp. 399.

THIS book is profusely illustrated with 16 chromo-lithographs and 115 wood engravings. A few of the latter, especially those illustrating fistula in ano, are very good. We regret we cannot say the same of the coloured plates. The printing is excellent, but many of them are so diagrammatic that it is impossible to believe that the artist had ever seen what it is intended to depict. Plate II.—a study in red, yellow and blue—is, we note from the description, intended to represent the levatores ani, as seen from above, while the next plate is stated to be a lateral view of the same muscles.

The chapter on fistula is well done, and the directions for operation good; but the omission of any notice of the immediate suturing of a fistula wound, which is now so largely adopted, and which reduces the duration of the after treatment quite to one-fourth, while obviating any tendency to incontinence, we consider a serious one; in fact, the whole book must be described as common-place, and decidedly not up-to-date from a scientific standpoint.

The author claims originality for two chapters—one on "Rail-roading as an ætiological factor in rectal disease," and the other on "Auto-infection from the intestinal canal." We fully admit the originality of the conception of the former chapter, and a perusal of it has afforded us much amusement. We would suggest that if a new edition appears the author should write a chapter on Ballooning as a cause of rectal disease! The latter chapter is a jumble of observations by various authors through the whole range of digestion and intestinal bacteriology. It appears to be quite out of place in a book of this kind.

The Modern Treatment of Stone in the Bladder by Litholapaxy. By P. J. FREYER, M.D., M.Ch., Surgeon Lieutenant-Colonel, Bengal Army (retired). Second Edition. 41 Engravings. London: Baillière, Tindall & Cox. 1896. Pp. 118.

THE author of this work, now on the staff of St. Peter's Hospital for Stone in London, states in his preface that he has operated on over six hundred cases of stone in the bladder by Bigelow's method. This experience has been gained in India, and is in itself sufficient ground to command our confidence in, and respect for, his writings and teachings on this subject. Altogether he has performed some 864 operations, but he states he has now dropped all other methods in favour of Bigelow's. As regards the form of lithotrite he employs he expresses his preference for the fully fenestrated instrument, "considering the use of any other kind unnecessary, and almost unjustifiable," having regard to "the danger that exists of *débris* getting impacted in the jaws of non-fenestrated instruments, an accident which cannot occur with fenestrated ones when properly used. The method of lock in Bigelow's instrument gives it a great advantage, while the blade of Thompson's, if fenestrated, is, the author considers, to be preferred. Accordingly, a lithotrite made for him by Weiss, which combines the advantages of the two, is that which he advises. "Ten years acquaintance with it" enables him to say that it is practically perfect in its workings. As to the aspirator, of the many before the profession he uses a modification of Bigelow's recent one, dispensing with the hose, extra stop-cock, and strainer of this latter appliance. It is made for him by Messrs. Weiss.

The author enters completely and exhaustively into the details of the steps of the operation of litholapaxy, giving full instructions not only for every step of the operation, but for meeting such unexpected accidents and complications as may occur even to the most dexterous manipulator. While agreeing with Dr. Freyer that "patience, perseverance, gentleness, dexterity, a light touch, and above all, experience," are essential to make a man a good litholapaxist, we are inclined to think that his devotion to his true love carries his enthusiasm a little too far when he states that the operation is, "perhaps, the most difficult in the whole range of operative surgery." If it be strictly correct to say that no novice should undertake the operation, so far as the great body of the profession at home is concerned, what must have been his own sense of responsibility when as soon as he could procure the necessary instruments from England he commenced at once (in 1882) to give the new operation a fair and unprejudiced trial? Even in India he will allow there must be novices. and some surgeons who have not learnt their bladder surgery there must surely be compelled to treat calculus by crushing at home.

Dr. Freyer's 610 operations occurred in 599 individuals, disease recurring in 9 cases, in one instance twice. He attributes this recurrence to constitutional causes, just as stone will recur after lithotomy. This immunity from recurrence in so large a number of cases he ascribes to the care with which all the final fragments are withdrawn. He advocates thorough crushing of the stone before withdrawal of the instrument, repeated introductions of which he deprecates. He has operated several times without an anæsthetic, and declares that with a capacious urethra in an adult he would not hesitate to attack a stone of about an ounce in weight. Kidney disease he does not regard as a contra-indication, as under all circumstances an operation affords the patient the best chance. He had nine deaths in 439 adults, and two deaths in 171 children, a percentage of 1·80 on the whole; and comparing the deaths in his 254 lithotomies—viz., 11—he states that by litholapaxy "the mortality in operations for stone in the adult has been reduced from 18 to 3 per cent." in his practice. A mortality of 2 per cent. in 770 operations (by litholapaxy and lithotomy) is a result highly creditable to the author's manipulative skill.

We are glad to find that, in lithotomy at least, English surgery, including that of the "novice," compares favourably with Indian, as of 1,827 lithotomies performed in British hospitals the mortality was 12½ per cent., as against 13 per cent. in 2,592 operations performed in India.

Not the least valuable and interesting part of Dr. Freyer's work is the chapter devoted to the difficulties and complications of the operation. This includes the management of large and encysted calculi, and that *bête noire* of the lithotritist, urethral stricture. Forcible dilatation in the instance of old and hardened strictures is properly condemned, internal urethrotomy being the only right and scientific treatment for such.

There is an important statement with regard to those cases of such hypertrophy of the prostate as interferes with the passage of a lithotrite:—"The use of force of any kind in passing instruments in such cases must be carefully avoided, and if the lithotrite cannot be coaxed in by that amount of manipulative skill which the surgeon from his experience has acquired, the idea of performing litholapaxy must be abandoned, and supra-pubic or perineal lithotomy had recourse to, according to the circumstances of the case." On the important question of litholapaxy in male children, Dr. Freyer, in the face of a mortality of only 1 per cent. in a total of 197 cases, and 191 successful consecutive lithotomies, in children, has abandoned this operation in favour of litholapaxy. He gives to his Indian colleague, Keegan, full credit for the able manner in which he advocated the suitability of Bigélow's operation for children. There can be no doubt that the author's statement is correct, and that with due care in dividing the urethra within a short distance from the meatus, the use of suitable instruments, and skill in their manipulation, "litholapaxy is now possible in children of the most tender age." The youngest male child operated on by the author was eighteen months old, and in this case a tiny stone, the *débris* of which weighed five grains, was crushed.

The rarity of stone in the female is illustrated by Dr. Freyer's statistics, there being only 17 cases in 864 operations. That litholapaxy is the operation for stone in the bladder in women goes for the saying.

There are many other interesting practical points and observations made by Dr. Freyer in this edition. If we have any fault to find with it it is in the direction of the needless controversial details of historical rather than clinical interest entered into by the author. What Sir Henry Thompson wrote in the sixties or seventies matters but little in 1896, and whatever opinions or views the same eminent surgeon may have advocated with regard to appliances, the originality of Bigelow's method or the stages of its progressive development, the fact remains that he has been the most distinguished operator in this department of surgery that England has produced in the last half century. Not only this, but the present generation of surgeons owes to him the deepest debt of gratitude for the inculcation of those sounder principles on which are based the modern and more successful means of dealing with affections of the male genito-urinary organs. In another edition of his unquestionably valuable and practical *brochure* the author may see his way, without in the least degree lessening its clinical worth, to omit these controversial passages from his pages.

We can unhesitatingly and confidently recommend this classical monograph, the outcome of the ripest and most varied experience, as a book to be procured by every surgeon who desires to perform the operation of litholapaxy in the most perfect and approved manner. The illustrations of the instruments are admirable, and the book reflects great credit on its publishers.

The Happy Home. Vol. IV., No. 75, August 15, 1896.
London: W. P. Chew.

THE current number of this charming little periodical contains an appreciating and generally accurate notice of summer resorts near Dublin, under the heading "By the Sea." The article is illustrated with pretty views of the Esplanade, Bray; and of the Dargle, Co. Wicklow.

"There is no coast in the United Kingdom," says the writer of the article, "where finer scenery or more enchanting views can be enjoyed than that which so boldly stretches along the south-eastern shore of the Bay of Dublin."

Blackrock, Kingstown, Dalkey, Killiney, Bray, and Greystones, all come in for a word of praise.

The publication is neatly printed, the illustrations are many and artistic, and the letterpress is amusing—altogether "The Happy Home" is a wonderfully cheap penny-worth. In its pages ladies especially will find much to interest and instruct.

Cutaneous Medicine. A Systematic Treatise on Diseases of the Skin. By L. A. DUHRING, M.D. Part I. Illustrated Philadelphia: J. B. Lippincott. 1895.

DR. DUHRING has long held a foremost position among scientific dermatologists, and his former treatise upon Diseases of the Skin enjoyed a well-deserved reputation. He has now undertaken a more comprehensive work, of which the present volume is the first instalment. It is needless to review it in detail, for the author's claim to speak with authority is firmly established. Suffice it to say that Part I. is a general introduction. It deals fully with the anatomy and physiology of the skin, and is copiously illustrated with excellent cuts. Then are taken up the subjects of symptomatology, ætiology, general pathology, and diagnosis. The book concludes with a section on the general treatment of skin diseases. We can cordially recommend this work to our readers.

Physics for Students of Medicine. By ALFRED DANIELL, M.A., D.Sc. London: Macmillan & Co. 1896. Pp. 469.

THIS handbook is intended to give medical students a general view of elementary physics as a whole, and to provide a course of preparatory instruction which will fit them for the specialised instruction to be received later on.

In order to accomplish this double object the author calls attention to the practical application in medicine and surgery of the points dealt with, and so puts a pleasant and interesting cover upon the dry bones of physics. Thus, in speaking of translation of work, the following are among the points explained—the fine adjustment of the microscope and the action of scissors, forceps, mouthgag, and polypus snare; and the same method is adopted in all the sections. The book is quite "modern," as it contains a short but clear paragraph on the X-rays.

Of course such a handbook must be condensed, but the judicious use of heavy-faced type for important points, and of small type for the more recondite matter, help to avoid confusion. We gladly recommend this excellent handbook not only to students, but also to practitioners who want to rub up their physics.

Formulaire Aide-Mémoire de la Faculté de Médecine et des Médecins des Hôpitaux de Paris. Par le DR. FERNAND ROUX. Quatrième Édition. Paris: G. Steinheil, Éditeur. 1896.

THIS book is one of those little medical dictionaries which delight the student and have a success in inverse ratio to their value—if such books have any value. It is painful to turn over the pages of such *multum in parvo* volumes.

Within a very short, wholly inadequate space they profess to give the ætiology, bacteriology, diagnosis, prognosis, and therapeusis; this latter portion being sprinkled with practical prescriptions so-called.

Every disease is considered as an entity, and the patient does not count. Symptoms are enumerated as occurring with the regularity of sun-rise and sun-set at certain stages, for the stages, according to the authors of such publications, occur at regular intervals, as do milestones on the Queen's highway—and then come the prescriptions with rigidly apportioned doses. What bitterness of soul they would bring to the man who used them. Like Gil Blas, the poor practitioner would look back on his work with horror.

Had Milton been a physician and read some of these bound advertisements, for we cannot look upon them in any other light, we think it highly probable that he would not have written his Areopagitica.

It is a distressing thing to see valuable monographs and text-books neglected for these misleading handy medical dictionaries. The volume before us is neither better nor worse than the class to which it belongs.

THE ROYAL VICTORIA HOSPITAL, MONTREAL.

THIS institution was founded by Lord Mount-Stephen and Sir Donald A. Smith to commemorate the Queen's Jubilee in 1887. The founders have now placed in the hands of Messrs. E. S. Clouston, R. B. Angus, J. W. Stirling, and John Turnbull, as trustees, securities to the par value of 800,000 dols., which, it is expected, will yield an annual income of 40,000 dols. This is for the permanent endowment of the hospital, and to it is to be added a sum of 250,000 dols, which remains of the original donation of 1,000,000 dols., after the erection and equipment of the building.

CASE OF MISSED LABOUR.

HUGH KELLY, M.B., reports (*Glasgow Medical Journal*, July, 1896) a case of missed labour. At the end of nine months the fœtal movements ceased, and an attack of sickness and vomiting came on, lasting for some hours; from this on no movements were felt, and birth did not take place for seven weeks subsequently. The fœtus, a fully developed male, was beginning to macerate, and the funis was quite gelatinous. The cranial bones were quite loose. The duration of pregnancy was 330 days.

PART III.

SPECIAL REPORTS.

REPORT ON PUBLIC HEALTH.[*]

By Sir Charles A. Cameron, M.D.; D.P.H., Camb.; M.R.C.P.I.; F.I.C.; Ex-President, Hon. Dip. Public Health, and Professor of Hygiene and Chemistry, R.C.S.I.; Vice-President and ex-President of the British Institute of Public Health, and of the Society of Public Analysts; Medical Officer of Health for Dublin; Hon. Member of the Hygienic Societies of France, Belgium, Paris, and Bordeaux, the Academy of Medicine, Sweden, and of the State Medical Society of California, &c.; Examiner in Sanitary Science, Royal University of Ireland; Member of the Army Sanitary Committee.

POISONING BY INGESTION OF UNSOUND FOOD.

In the Dublin Journal of Medical Science for June, 1873, I recorded the case of a family who were poisoned by eating extremely rancid butter. One of the family—a little girl—died. I have now to record a somewhat similar case, but which, fortunately, was not attended with a fatal result.

A family composed of two adults and four children, residing in the County of Kildare, sickened soon after partaking of a meal of simple composition. The symptoms were choleraic diarrhœa and vomiting. The cause of this illness was clearly due to very rancid butter which formed part of the meal. On examining a small portion of this butter I found it to be very rancid, and swarming with micro-organisms. It was examined for ptomaïns and they were found in great abundance. This led me to examine other specimens of ordinary market butter, and I found that they all contained ptomaïns, but in nothing like the quantity found in the Kildare sample.

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[*] The author of this Report will be glad to receive any books, pamphlets, or papers relating to hygiene, dietetics, &c. They may be forwarded through the agencies of the Journal.

In May last a fatal case of poisoning by the ingesta of unsound meat was investigated by me. A man, his wife, and three children sickened after partaking of a dinner which consisted principally of salted beef. Vomiting and diarrhœa were the principal symptoms. The infant, who only sucked a little of the meat, suffered considerably, and the other two children died. No ordinary poison was detected in their viscera, nor were effects of disease noticed at the autopsy. A thorough investigation negatived the assumption of poison in any of the few articles of food used by the family, with the exception of the meat. The meat had been imported from Australia in a frozen condition, and had, on being thawed, been slightly salted. It was, however, when used at dinner found to have a strong flavour, and when I received it, soon after, it was in a most offensive condition. It was found to contain ptomaïns in abundance. I am inclined to think that frozen meat, when it is thawed, is more prone than ordinary fresh meat to decompose quickly. It is not unlikely that this tendency to decomposition can be arrested only by heavy salting. If the meat, before being put into pickle, is in an incipient state of decomposition, it is doubtful if salting will then prevent decomposition. Then there is the danger that meat actually tainted may be put into pickle. Respectable butchers are not likely to do this, but there are no doubt some butchers who would not be so conscientious, or perhaps would consider that the salting of the tainted meat would prevent any ill results from its use as food. There are numerous cases on record in which unsound meat has actually been detected in pickle, and I have many times condemned meat just taken from the pickle tub or vat.

At Bootle Police Court, on the 17th of July last, a butcher was fined £2 for having a large quantity of tainted meat in pickle, which meat was in preparation for sale. Several prosecutions for having unsound meat in preparation for sale took place in Birmingham on the 7th of July last. It was proved in evidence that large numbers of the tongues of oxen, in a tainted state, were found in pickle. I could cite many other cases of the kind, but these will suffice. **With** regard to tinned foods, cases of poisoning caused by them are of very frequent occurrence. As in the case of frozen meat, tinned foods exposed to ordinary air soon become tainted. They should be eaten as soon as possible after their tins have been opened, and especially is it necessary that they should be examined before being eaten. The slightest musty odour should suffice to prevent their use. On the 23rd of July last a coroner's jury at Blackpool found a verdict to the effect that the death of Dora Elizabeth Reading, aged twenty, was caused by eating tinned salmon. Some years ago nearly the whole of the large family of the Secretary to the Dublin Gas Company had a narrow escape from a similar death. I found the tinned lobster on which, together with good bread and butter, they had lunched impregnated with fungi and bacteria. At the Thames Police Court, in May last, evidence was given showing the discovery of 1,529 tins of meat, which was more or less putrid, in premises in which soup-making was carried on. The tins, which weighed 2 tons, were destroyed in a furnace. On May 29, 1896, an inquest was held at Sheffield on a lad named Alfred Foster. It was proved that his death was caused by eating tinned lobster.

On the subject of tinned meat it is not pleasant to reflect on the statement recently made by the Belgian Minister of Agriculture, that 6,000 old horses are annually sent from England to Belgium and converted into tinned meats. Little, if any, tinned meats are imported into England from Belgium, but perhaps the German sausages and black puddings are not altogether innocent of horseflesh. At Woolwich Police Court, on the 29th of May last, a case of cruelty to a horse was investigated. The animal was of great antiquity, had two ugly sores on its back, and was lame. It had been purchased by the defendant for £4, from a man named Smale. This individual was in court, and offered to take the horse back. On being asked what he proposed to do with the aged animal he promptly responded that he would sell it for £3, to be converted into potted meats.

A few months ago an outbreak of illness affecting 156 persons in an English town was attributed to the use of tinned meat.

The *Grocer's Criterion* advises us to reject every tin which does not show the line of resin round the edge of the solder of the cap, the same as is seen on the seam on the side of the can. The contents of the tin should not rattle when the tin is shaken. It is a suspicious circumstance when the name of the manufacturer and his address are not on the tin.

There is no doubt that in summer much diarrhœa and even choleraic diarrhœa are caused by stale food, and even by food which has not a decidedly high odour. In some cases of disease which I attributed to the use of unsound meat, I noticed that the food was partaken of when cold. In an extensive and fatal outbreak of disease in the County of Wicklow, due to the eating of the flesh of a cow which had been only very slightly diseased, I discovered the following facts:—All the persons who partook of the flesh of the animal when first cooked, and still hot, did not suffer from any bad symptoms, but those who ate it the day after it was cooked were affected; and as the meat was not consumed completely until three days after it had been cooked, it became more and more poisonous the longer it remained, and the most severe cases were on the last days of its consumption. In very hot weather, therefore, is it prudent to eat cold beef or mutton? Is this the best time to discuss articles served up *en aspic*? I venture to answer these queries in the negative. The following case, communicated to me by Mr. W. Blagg, a member of the District Council of Winsford, Cheshire, illustrates the danger of using cold meat in very hot weather. I publish it with his permission:—

"It was in 1887, during August. The heat was intense, when an event took place which brought together a circle of twenty members of our family, during which we joined in a plain family tea. My mother had purchased a leg of mutton on the Saturday, fresh-killed, and of excellent quality. This was cooked on the Sunday and at the above tea was cut up and eaten cold. As there were seventeen who partook of it you may know only a little was eaten by each. All pronounced it very sweet and good; no one perceived any taint.

"During the early morning following, I was awoke by three of my children complaining of pains in the bowels and sickness. I got up and attended to them; during such attention I commenced to be purged. I then received a message that my mother was ill. On reaching her house I found her in the closet just passing into unconsciousness through rupturing a blood vessel by vomiting. While attending to her I was seized with the shivers and vomiting and purging, and had to be carried to bed, when, before the day was out, it was discovered that all the seventeen who eat the mutton were in the same condition. My mother died. At the time no one could give any cause for the attack, but as bit by bit it became known that two or three who had not eaten of the mutton were not attacked, it was thought this mutton had something to do with it."

ON SOME OF THE VITAL AND MORTAL STATISTICS OF DUBLIN.

The mean death-rate of the Irish towns is decidedly greater than that of the English towns. On the other hand, the rural death-rate in Ireland is below that of England. Dublin, formerly, had general and zymotic death-rates considerably above those of the other Irish towns, taken together. Lately, however, the Dublin death-rate from all causes has almost completely come down to that of Irish towns, whilst its zymotic death-rate has fallen below that of the other towns. Some years ago the state of public health in Dublin was very bad, but it has improved considerably during the last decade. A few figures will show how great the improvement has been:—

Years	Death-rate from all causes			Zymotic Death-rate
1876–1880	29·5	per 1,000	persons living	5·1
1881–1885	27·4	„	„	3·1
1886–1890	26·8	„	„	2·9
1891–1895	26·1	„	„	2·3
First half of 1896	23·4	„	„	1·2

Death Rate in Dublin (whole area)—During 5 years ended 1895.

Locality	1891	1892	1893	1894	1865	Mean Rate, 5 years
Dublin (whole area) -	25·5	28·4	26·0	23·8	27·0	26·1

Death Rate in Belfast—During 5 *years ended* 1895.

Locality	1891	1892	1893	1894	1895	Mean Rate, 5 years
Belfast - - -	25·2	26·5	25·8	24·6	26·2	25·7

Thus it will be seen that whilst there has been a substantial reduction in the general death-rate, the mortality caused by the principal zymotic diseases has been reduced more than one-half in the five years ended in 1895, as compared with the semi-decade 1875–80. The Dublin death-rate is still decidedly higher than that of the English towns, but as regards the zymotic death-rate Dublin now shows a slight superiority. Thus the rate in the 33 largest towns[*] in the five years ended in 1895 was 2·7 per 1,000, whilst in Dublin it was 2·3. In the first half of 1896 the zymotic death-rate in the 33 largest English towns was 2·8, and in Dublin only 1·2.

The decline in the zymotic death-rate in Dublin is very much greater than in the English towns, as will be seen by the following figures:—Periods, 1876–80, 3·8, 1881–85, 3·3, 1886–90, 2·9, 1891–95, and first half of 1896, 2·3.

Zymotic Death Rate—5 *years ended* 1895.

Locality	1891	1892	1893	1894	1895	Mean Rate, 5 years
Dublin (whole area) -	1·7	2·9	3·1	2·1	1·9	2·3
Belfast - - -	2·6	3·8	4·7	4·1	3·3	3·7
Thirty-three large Towns in England	2·84	2·44	3·18	2·64	2·42	2·7

The infantile death-rate was formerly very high in Dublin, but for some years past it differs but little from the mean rate in the great English towns as regards the relation between the deaths and births. The ratio of deaths of children under one year of age to deaths of persons at all ages is, however, very different in the English towns as compared with Dublin.

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[*] I have recalculated the rates between 1882-1891, on the basis of actual population ascertained by the Census of 1891, the figures annually published in that period being based on estimates of population.

Death-rate of Children under one year of age in 1894 *and* 1896.

—	ALL ENGLAND AND WALES		33 LARGEST ENGLISH TOWNS		LONDON		DUBLIN	
	1894	1896	1894	1896	1894	1896	1894	1896
Per 1,000 of the estimated population under one year of age	156	162	151	188	148	166	151	171
Per 1,000 of the estimated population of all ages	4·1	4·9	4·7	5·7	4·8	5·6	4·8	4·9
Per 1,000 births registered	157	161	152	189	148	166	152	171
Per 1,000 deaths registered	245	261	259	276	248	255	152	176

Without claiming that the great reduction in the Dublin zymotic death-rate is chiefly due to the sanitary reforms which have been carried out during the last sixteen years, it seems only reasonable to infer that these reforms have to some extent contributed to bring about that happy state of things. The chief improvements effected in Dublin during the time referred to are as follows :—Two extensive insanitary areas have been cleared, and nearly 2,000 insanitary dwellings have been closed; the scavenging of the yards and sanitary accommodation of the tenement houses has been established; the domestic scavenging clause of the Public Health Act has been put in force; two open spaces have been formed, and contributions towards three open spaces, not in charge of the Corporation, are made; an abattoir, and baths and wash-houses, have been erected; large sums have been expended in improving the roads, paths, and sewers. There has been a large increase made in the sanitary staff, and the inspection of tenements, factories, and workshops is now vigorously carried on. Loans amounting to £136,000 have been, or are being, expended in the erection of artisans' dwellings. Disinfection is free to everyone. The best forms of ambulances for the conveyance of fever patients to hospital have been adopted. A great scheme of main drainage will soon be in operation, and will be, probably, the last great sanitary reform needed, with the exception of improved hospital accommodation for fever patients. Dublin is by no means a rich city, yet it has expended the following large amount on sanitary improvements :—

Statement of Loans Obtained or Sanctioned up to 30th June, 1896.

	£	s.	d.
Clearance of Unhealthy Areas :—			
Plunket-street area	31,919	0	0
Coombe area	25,960	0	0
Erection of Artisans' and Labourers' Dwellings	141,296	0	0
Sewer works	44,900	0	0
Construction of Abattoir	16,200	0	0
Making new streets by clearing away of narrow courts, &c.	157,700	0	0
Private improvement expenses	9,500	0	0
Urinals, latrines, and underground conveniences	2,900	0	0
Works in connection with domestic and other scavenging operations	33,225	0	0
Pumping stations (pumping up sewage), to prevent undue accumulation of sewage in sewers	16,707	1	7
Erection of baths and wash-houses	12,500	0	0
Open spaces	1,600	0	0
Structural alterations at disinfecting house	2,000	0	0
Erection of refuge for persons whose dwellings are being disinfected	500	0	0
Mortuary	200	0	0
	£497,107	1	7
Average annual cost of sanitary department	£4,533	3	4

Large sums were also expended on improved paving (£345,305), erection of sanitary offices, markets, &c.

ÆTIOLOGY OF TYPHOID FEVER.

For several years past I have been studying the phenomena of typhoid fever in Dublin. I have no doubt that many factors play a part in spreading this fever—water, milk, and other articles of food, may contain the virus of the disease. Many papers have been lately published whitewashing, so to speak, the sewers from a sanitary point of view. It is asserted that the air of sewers contains fewer micro-organisms than ordinary atmospheric air. This is no doubt true, but all the same, one would prefer breathing the ordinary air with its myriads of organisms, rather than the air of sewers with its paucity of those tiny, but often deadly, entities. In Dublin, however, I believe that the really serious factor in the spread of typhoid fever is the soil. A study of several thousand cases shows that there is far more typhoid fever on the gravels than on the boulder clay—both formations constituting the site on which Dublin is situated. In the gravels the ground water lies very low, whilst in the boulder clay it comes close to the surface of the ground. The midden system, which for centuries has prevailed in Dublin, has polluted the soil extensively, and the bacilli of enteric fever have established themselves in it. The soil conditions are more favourable in the gravel than the clays for the development of the bacilli.

Dr. Porter, Medical Officer of Health for Stockport, has made observations in reference to the ætiology of enteric fever, the results of which clearly show the intimate connection between the soil and this disease.

Stockport has a higher death-rate from enteric fever than most of the English towns, and Dr. Porter attributes the higher mortality to soil-pollution. He says—"Many of the existing privy-pits, especially in the older parts of the town, are faulty in the extreme; none that I know of can be considered really satisfactorily watertight, while a very large number, being very leaky, are responsible for wholesale soil-pollution. In many instances these foul receptacles are within a few feet of the door, and I know of many actually abutting on the walls of dwelling-houses (there were 186 in 1885, and the great majority still exist), their liquid contents, of course, soaking into the foundations. In a few instances privies are situated under occupied rooms, but these are at present being dealt with. In the newer parts of the town, where houses are built in terraces, one privy-pit ordinarily serves for two houses, but in the numerous courts of the older parts, where air circulation is at a minimum, one enormous fosse usually exists in the middle of the yard, the common receptacle for the excreta and house refuse of the occupants, of from 6 to, in one case, 36, and in another 40 habitations. Owing to their size, structural defects permitting dampness, and the very usual deposit therein of slops, vegetable and animal refuse, these pits are generally excessively foul, and the air of the courts in which they are situate offensive to a degree which must be experienced, especially in hot weather, to be realised. Further, atmospheric pollution and fouling of the surface of yards and streets, of gullies, drains, and sewers, which is inseparable from the most careful scavenging of these privy pits, is an ever-present nuisance of the most aggravated kind, and in regard to some 80 houses the privy contents have to be carried actually through the living rooms, but action is at present being taken with the approval of the Sanitary Committee in regard to these.

"As to the manner in which human health, apart from comfort, is liable to suffer from such conditions it is only necessary to refer to the typhoid outbreak of 1893, in which the influence of midden-privies in disseminating the disease afforded such remarkable confirmation of the well-known official words of the late Sir George Buchanan, M.D., F.R.S.:—'In enteric fever the evacuations should be regarded as capable of communicating an infectious quality to any nightsoil with which they are mingled in privies.' I have elsewhere alluded to the opinions formed by Messrs. Andrews and Laws (as the result of patient inquiry relative to the micro-organisms of sewer-air) that much in the way of typhoid (and perhaps diphtheria) that has been erroneously ascribed to sewer-air is 'really largely due to subsoil air polluted by the constant infiltration of excremental matter.' I have also commented upon the terribly excessive mortality from infantile diarrhœa which persistently inflates the Stockport death-rate, and I desire to place on record my opinion that without any manner of doubt it will continue to do so as long as wholesale pollution by leakage from midden-privies continues to supply the soil with the putrid excremental organic matter known to be so favourable to the life-processes of the micro-organism associated with this malady. Finally, the following significant figures as to the mortality from these filth-diseases (typhoid and diarrhœa) in Stockport as compared with England and Wales, speak for themselves.

Death Rates per 1,000 *in*

STOCKPORT											England and Wales
YEAR	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1884 to 1893	1884 to 1893
Typhoid Fever	0·85	0·23	0·55	0·54	0·47	0·1	0·2	0·2	0·2	0·67	0·25	0·17
Diarrhœa	2·1	0·74	1·8	1·2	0·7	0·7	0·7	0·9	0·7	2·70	1·21	0·73
All Causes	24·9	26·9	26·4	26·9	25·08	23·5	26·5	26·9	22·7	23·9	26·2	19·2

Dr. Porter states that the parts of the town unaffected by enteric fever are situated on the boulder clay, whereas the typhoid-infected districts consist of sponge-like sand or gravel, overlying more or less basin-shaped layers of clay. He believes that the exceptional heat and drought of 1893 caused a great increase of enteric fever by reducing the self-cleansing power of the sewers, by lowering and diminishing the circulation of the ground-water, and thereby reducing its purifying influence on the subsoil—thus favouring the development of the specific enteric fever poison in stagnant sewer deposits, polluted subsoils, &c. A similar state of things existed in Dublin in 1893.

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—**James Little**, M.D., F.R.C.P.I.

General Secretary—**William Thomson**, F.R.C.S.I.

SECTION OF MEDICINE.

President—**T. W. Grimshaw**, M.D., President of the Royal College of Physicians of Ireland.

Sectional Secretary—**A. N. Montgomery**, M.R.C.P.I.

Friday, February 28, 1896.

Dr. Walter G. Smith in the Chair.

Living Exhibits.

Case of athetosis, shown by **Dr. J. B. Coleman**.

Case of favus of the scalp, in a child, with microscopic slide of the characteristic fungus, shown by **Dr. Walter G. Smith**.

Patient, a woman, exhibiting trophic disturbances, following injury to the median nerve, shown by **Dr. A. R. Parsons**.

Dr. H. C. Tweedy asked what treatment was being employed for the case of favus.

Dr. Walter Smith said he was using chrysarobin ointment on one-half, and a weak resorcin ointment on the other half of the scalp, but it was too soon as yet to say which gave the best results.

Case of Choreic Spasms.

Dr. Walter Bernard (Londonderry) described a case of this disease. [It will be found in Vol. CI., p. 309.]

Dr. W. G. Smith said the case seemed to him to belong to the choreic group of diseases.

Dr. Carroll said he believed the movements were simply habits acquired in boyhood, and that these habits became more marked as the patient advanced in years. To illustrate his meaning, he described some instances of habit spasms.

Dr. Drury thought the condition resembled torticollis, but without involvement of the neck muscles.

Dr. Craig considered that the disease affection in the arm was of a choreic character, and that in all probability it was the result of an infantile monoplegia that had not been recognised.

Dr. Bernard, in reply, admitted that the movement to be observed in his patient simulated chorea; but the muscles were enormously hypertrophied, the movements ceased whenever the patient had to do heavy work, such as heaving a cart, lifting heavy weights, &c. He had never seen a case of chorea in which the movements did not cease during the night.

Two Cases of Paraplegia.

Dr. H. T. Bewley read the notes of two remarkable cases of paraplegia. [They will be found in Vol. CI., p. 294.]

Dr. W. G. Smith said Dr. Bewley was to be congratulated on his lucid exposition of two obscure and difficult cases of nervous disease. He dwelt on the terms functional and organic, in reference to nervous disease. He thought one should be cautious in accepting the precise rules laid down in text books. He gave the details of one case, in which a pathologist would expect to find a healthy cord, with perhaps islands of disease here and there. On the contrary, an autopsy revealed a cord uniformly diseased.

Dr. Falkiner thought it would be difficult to discuss Dr. Bewley's cases. For the purpose of bringing about a debate, however, he would enter into the history of a case that was under his own treatment for some time. A corn porter got a chill; twenty-four hours after he had a severe pain in his back. Soon after he lost sensation and motorial power in the lower extremities. The slightest movement of the body caused a copious flow of urine. He was sent to Baggot-street Hospital, where he was under treatment for a long time.

Dr. Craig reported a case of transverse myelitis, involving the lower dorsal and lumbar regions of the cord, in which there were, a rapid wasting, loss of motion, sensation, and reflexes in the lower limbs, with retention of urine, cystitis, and acute bedsore. Partial recovery took place, but the limbs were now contracted. The bladder had been washed out daily and every care taken to prevent the sore spreading.

Dr. Drury stated some views of Dr. Gowers on ankle clonus. He discussed the phenomenon of ankle clonus as an aid in differentiating functional from organic diseases. He discussed Dr. Gowers' method of measuring paralysed limbs.

Dr. Bewley said, in reply, that as regarded Dr. Drury's remarks on ankle clonus, the term had for him the meaning ordinarily attached to it. He described what he meant by ankle clonus; also the manner in which the phenomenon is produced. Ankle clonus was not, in his opinion, a symptom of what was known as functional nervous diseases.

The Section then adjourned.

Friday, March 27th, 1896.

The President in the Chair.

Defective Metabolism in its relation to Gout.

Dr. M. A. Boyd read a paper on this subject. [It will be found in Vol. CI., page 469.]

Dr. N. Falkiner said that Dr. Boyd had twice mentioned that urea was derived from uric acid. He wished to know if that was correct.

Dr. Walter Smith agreed with Dr. Boyd in considering gout as a deeply-seated perversion of the nutrition of the body. The pathology of gout is still obscure. The best summary, both pathological and chemical, is that by von Noorden. Gout is attended with certain remarkable tissue changes. It is coincident in many cases, but not in all, with the deposition of sodium biurate in certain tissues, especially connective tissue. It was not known what led to the apparent or real accumulation of uric acid in gout. It was very difficult in a gouty person to exclude the possible condition of chronic nephritis, to which it often leads. The amount of uric acid varied within wide limits both in health and disease, and the causes of its variations were not known. The assumption that there is an increase of uric acid in a gouty person rests upon six experiments. Five of these were made many years ago by a faulty process. He considered that the variations in the amount of uric acid excreted in gout varied within the same limits as they do in a healthy person, and there was no certain knowledge of the influence of gout on the excretion of uric acid. There was no evidence to prove that uric acid is a poison analogous to an alkaloid. The theory of gout and uric acid is always linked with a diminished alkalescence of the blood. He agreed with Sir William Roberts in this belief that an acid dyscrasia in gout rests upon a pure assumption. There is very little proof that the alkalinity of the blood could be altered for more than a few moments, for the kidneys keep the blood at a steady average. It is impossible that neutral urates can circulate in the body. Therefore, Ebstein's theory falls to the ground. Sir William Roberts thinks that alkalies which occupy such a prominent position in the treatment of gout, are absolutely without influence on the course of the disease. The introduction of sodium salts into the blood is dangerous with gouty subjects, therefore harm may be done by sending patients to mineral springs with sodium salts. Considering the long history of gout, the influence of heredity, of renal disease and tissue change, he thought we should be very slow before drawing any conclusion as to the efficacy of therapeutical means in gout.

Dr. Boyd, replying, said he did not mention that urea was formed from uric acid, but that uric acid could be formed from urea. He agreed with Dr. Smith in almost everything. He thought there was a condition of uricacidæmia. Lowering remedies, as bleeding, purging, and giving large quantities of the sulphates of magnesia and soda, were essentially mischievous in gout, but tonics, alkalies, and dietetic treatment relieved a great many of the symptoms which were ascribed to uricacidæmia.

An Outbreak of Acute Dysentery in Five Members of a Family.

Dr. Finny submitted clinical notes on above subject. [It will be found in Vol. CI., page 385.]

Dr. Falkiner said he had a friend who suffered from chronic dysentery. He found the liquid extract of Indian bael of no use, but a preparation made by Squire of London from the fresh fruit was the only thing did him any good.

Dr. S. M. Thompson, from his experience in South America, said that the hippo treatment had failed. Enemata of starch and opium hastened death by blocking up the lower bowel. It was very contagious. Patients in the same ward got it, although fed on a different diet.

Dr. Dawson said, that in acute dysentery an amœba had been discovered by Lösch. It had been found by other observers since. It grew very freely in an infusion of hay. It was not found in the Richmond Asylum cases referred to by Dr. Finny.

Dr. Little said there must be two or three different pathological changes which give rise to the symptoms of dysentery. He saw a great many cases in India. The astringent treatment was not useful in India but quite the reverse—such as calomel and castor oil. When he was there the ipecacuanha treatment was revived. In virulent acute dysentery it produced results unattainable by any other treatment. Vomiting following 20-grain doses was very rare, unless in the first dose or unless mixed with opium, as in pulv. ipecac. co. When pure and given in a little arrowroot it very seldom sickened. After the patient had an evacuation, 20 minims of liq. opii. sed., in about 2 drachms of warm milk, was injected with a small glass syringe into the rectum. If the patient had not a motion he was first given a warm water enema and subsequently the opium. It was generally followed by a few hours of quiet, which was a matter of considerable importance. In chronic dysentery he gives one-grain dose each of ipecacuanha and extract of hyoscyamus in pill—3 to 12 being given in the day, and patient put on a milk diet. At about the same time as Dr. Finny's cases occurred there were several cases in the Adelaide Hospital which presented all the symptoms of tropical dysentery, and which were confirmed by *post-mortem* examination.

Dr. Burgess said, when crossing the Atlantic, the temperature suddenly changed from being very cold to very hot. A great many of the passengers got symptoms of dysentery. Astringent and sedative remedies failed, and large doses of ipecacuanha caused vomiting. On the advice of one of the passengers, he tried a large teaspoonful of pulv. ipecac. co. They all rapidly got well under this treatment.

Dr. Finny, replying, said that when he stated that ipecacuanha had failed in the cases he mentioned, he did not wish to condemn it generally, as he had found it useful before. Osler mentions several cases in which an amœba was found and calls it amœbic dysentery, thus separating it from other forms of dysentery. He thought his own cases were probably more catarrhal than true tropical dysentery.

The Section then adjourned.

SECTION OF PATHOLOGY.

President—Conolly Norman, F.R.C.P.I.
Sectional Secretary—John B. Story. F.R.C.S.I.

Friday, March 13, 1896.

The President in the Chair.

Stenosis of Trachea and Bronchi, due to Syphilis.

Mr. F. Alcock Nixon showed a trachea and bronchi which were the seat of syphilitic stenosis. A large gummatous mass, implicating the lymphatic glands, and moulded round these tubes, diminished their size, so that a No. 4 catheter could with difficulty be passed through the trachea from above. The lesion was diagnosticated as syphilitic, and the patient was treated with mercury, and subsequently with large doses of iodide of potassium, up to several ounces, but without effect. The diseased mass, gradually contracting round the air tubes, slowly strangled the patient in the course of seven weeks. An examination of the specimen showed that, even if the disease had been accurately localised, no operation could have saved life, as it was deeply situated behind the aorta and implicated extensively both bronchi, as well as the lower half of the trachea. The larynx was quite healthy.

Dr. Robert H. Woods said that, through the kindness of Mr. Nixon, he had had an opportunity of examining the patient. The unusual character of the sound emitted during respiration attracted his attention, and enabled him, without laryngeal examination, to say that the stenosis was tracheal and not laryngeal. He inspected the trachea as far down as the eighth ring without seeing the obstruction. The stethoscope showed no difference between the two sides of the chest, and the inference therefore was that the stenosis was situated above the tracheal bifurcation and below the ninth ring. To explain the cause, they had to choose between tumour, aneurysm, and tertiary syphilis. The first two were excluded on account of the absence of other evidence in their favour, such as pressure symptoms, dysphagia, external tumour, pulsation, auscultatory phenomena, and the like, so that, partly by a process of exclusion and partly from the positive evidence of the history of the case and the presence of active syphilis in the throat, they concluded that the stenosis was caused by gummatous deposit round the tube, and the specimen showed this view to have been correct. The question of surgical interference was discussed, but was thought impracticable, and a look at the specimen now was sufficient to show that had it been attempted death would, in al probability, have been precipitated, and could not have been averted.

Dr. McWeeney said the tumour consisted of lymphatic gland tissue, the central portion of which had undergone caseous degeneration. There was also a considerable amount of fibrous tissue and giant cells. He considered that it was a lymphatic gland which had been the seat of gummatous deposit.

Mr. Croly, some years ago, had a patient with syphilitic laryngitis. He suddenly developed symptoms of asphyxia. He had him brought to hospital and performed low tracheotomy on him. When he put in the tube no air came through it. He pulled it out and put his little finger into the trachea, and found it filled with soft granulation tissue. He made an opening through it with his finger and inserted the tube. The patient lived. In Dr. Nixon's case he would have performed tracheotomy, and tried to put in a long tube. If the right and left bronchus were at all pervious he would then have had a chance.

Mr. Nixon, replying, said that the question of tracheotomy had been considered over and over again. The diagnosis was extremely doubtful. They were not sure whether they were dealing with an aneurysm, new growth, or intra-tracheal tumour. He thought tracheotomy would have hastened the man's death. The diseased mass overlaid not only the trachea but also the right and left bronchi. The lumen of the tube was less than would admit a No. 4 catheter.

Sudden Death due to Atheromatous Coronary Arteries.

Dr. Finny exhibited a heart (with microscopic sections) which was taken from the body of a female patient, aged fifty-eight, who died very suddenly after ten days' residence in Sir Patrick Dun's Hospital, and read a paper on the subject. [It will be found in Vol. CI., page 289.]

Dr. McWeeney said that the subject was a highly important one, in view of the difficulty sometimes encountered in arriving at a conclusion as to the cause of sudden death. Atheroma of the coronaries should always be carefully sought for. In his experience death was not due directly to this cause but to the small patches of fibrous tissue, the so-called Herz-schwielen of the Germans. These were the almost invariable result of atheroma of the coronaries, and would account for death independently of either valvular disease or thrombosis.

Dr. O'Carroll had seen two cases bearing on the subject of sudden death. One was a case of aneurysm of the apex of the heart. The patient lived forty-eight hours after being conscious of a sudden pang. The pain lasted till the end. *Post mortem*, it was found that the apex of the heart bulged out to the size of a walnut. The other case was that of a young man who died absolutely suddenly in a lodging-house in Church-street. The mitral valves were covered with large cauliflower granulations, about the size of a pea, but oval in shape. One of these oval nodules had been dislodged and sent lengthwise into the posterior coronary artery. It was interesting to contrast the two cases. The higher in the coronary artery the plug occurs the more sudden the death. Further down more likely to have aneurysm, and further down still patchy degeneration.

Dr. McWeeney said that atheroma of the coronary arteries might very easily escape notice unless looked for. Dr. Finny's paper would attract attention to it. He had seen several cases of it, especially when on duty at the Morgue. Death could not be ascribed directly to the coronary arteries, but to the muscle of the heart whose blood supply was affected. Foci of fibrous tissue were scattered through the heart in these cases. In the first section under the microscope the heart muscle was becoming fibrous. It was the first stage of a cicatrix. In the second specimen the granules did not appear to him to be fat. He thought it was a good example of brown atrophy.

Dr. Conolly Norman had seen the first case referred to by Dr. O'Carroll. He had not mentioned that the aneurysmal dilatation of the heart had ruptured. He had seen another case of an old woman who had symptoms which suggested fatty heart. She died suddenly, and the anterior branch of the left coronary artery was found absolutely occluded for two inches by endarteritis. The patch of the ventricular wall supplied by it was very thin and pale, and presented the microscopic appearances described by Drs. Finny and McWeeney.

Dr. Finny, replying, said that in Dr. O'Carroll's second case there was a distinct embolus. In his own case an already weak heart suddenly ceased from a thrombus forming. In consequence of the contraction of the smaller branches of the coronary arteries anæmic necrosis may occur which ends in fibrous tissue. The refractive globules stained black with osmic acid.

Testing Drinking Water for Colon-bacilli.

Dr. McWeeney gave a demonstration of some recent methods of testing drinking-water for colon-bacilli. The importance of the subject from the hygienic point of view was very great. When outbreaks of typhoid were traceable to drinking-water, it was only rarely that flawless demonstration of Eberth's bacillus in the water was effected. The period of specific contamination had in too many cases passed before the water was subjected to analysis. All hygienists are agreed that the demonstration of B. coli possesses a high significance, as affording evidence of the *possibility* of specific contamination. He now showed the results of three modern tests—Parietti's, v. Frendenreich's, and Abba's, as applied to three samples of water. Each sample consisted of half a litre of Vartry water drawn off into a clean flask 48 hours previously. To flask 1 was added a trace of typhoid stool obtained by once dipping a straight platinum needle into the stool and then into the water. To No. 2 was added a trace of pure culture of *B. coli, var. lactis ærogenes* from the fæces of a suckling. Sample 3 was left untouched. After 24 hours Parietti's test was performed, ½ c.c. of each water being added to a series of tubes containing broth acidified with HCl, and containing phenol in various proportions. The tubes were now shown, after 24 hours' incubation, when it was at once seen that those corresponding to the infected samples were turbid, whilst the uninfected were limpid, and showed no signs of growth. V. Frendenreich's and Abba's methods depend on the ability of *B. coli* to develop at blood-heat in solutions containing lactose. V. Frendenreich causes this to take place in a fermentation-tube—as originally recommended by Th. Smith, of Washington, and observes whether gas has accumulated in the closed side by the end of 24 hours. The tubes were passed round, showing that one-third of the fluid in one tube (that corresponding to the typhoid sample), and nearly two-thirds in the other (the coli sample), had been expelled from the closed limb by gas. The pure sample had not evolved the smallest bubble. Abba's method consists in converting the whole sample, or ½ litre of it, into a nutrient solution by the addition of 100 c.c. of a concentrated solution of peptone and lactose, then adding a little phenolphthalein and imparting a rose-colour with soda. After 24 hours' incubation the samples inoculated with typhoid stools and coli were completely decolorised and turbid, whilst the pure Vartry sample showed but little growth, and was not in the least decolorised, as comparison with an unincubated portion shows. The bleaching of the two infected specimens was, of course, caused by the neutralisation of the alkali by the lactic acid developed from the fermentation of lactose by *Bacillus coli*. All three methods yielded, on plating out the fluid, abundant colonies of Bacillus coli. Whilst Parietti's method permitted only quantities under 1 c.c. to be used, and v. Frendenreich's about 5 c.c.

Abba's method placed the analyst in a position to detect colon-bacilli in a litre of the water. After giving further details as to the respective merits of the plans exhibited, the speaker pointed out that too much importance ought not to be attached to the presence of small numbers of *Bacillus coli* in water. The originally-sterile intestine of the breast-fed infant came to contain this organism in millions a few days after birth—a fact pointing to its universal diffusion through the air. It was only when present in large numbers, and associated with organic matter capable of affording it pabulum, that its presence could cause the condemnation of the water.

Dr. O'Sullivan said that it was an extremely interesting communication. He wished to know what was the time limit of the changes diagnostic of the Bacillus coli communis. Other bacilli—for instance, the diphtheria bacillus—also rendered the medium acid in which they grew.

Dr. Parsons pointed out that the tests were tests not for the typhoid bacillus, but for the Bacillus coli communis. Formerly, from a bacteriological point of view, water was considered bad which contained a great number of micro-organisms. Now, if the Bacillus coli communis was present in large numbers, the water was rejected, as it showed probability of the water having been contaminated. If only a few were found, it was not looked upon as impure. He wished to know whether the tests they had seen would show the typhoid bacillus in the urine; also whether the Bacillus coli communis was present in the urine of typhoid patients.

Dr. McWeeney, replying, said that with reference to the time limit no attention should be given to any result that took over twenty-four hours to develop. It was true that other organisms made the medium acid, but they were distinguished from the Bacillus coli communis in that they would not develop in a solution containing a large quantity of lactose. He could not, however, speak with certainty of the diphtheria bacillus. Two of the tests were not for the typhoid bacillus, but Parietti's test reached to both it and the Bacillus coli communis, and by plating out it was easy to know which was present. He did not believe that there was a radical distinction between the typhoid bacillus and the Bacillus coli communis. The four characters which distinguish them—viz., the growth on potato, the mobility, the fermentation of lactose, and the coagulation of milk—are all mutable. As regards the fermentation, however, he had found it to occur only with the colon bacillus. There are clinical facts which show that auto-infection from one's own bowels may take place, and the Bacillus coli communis may set up inflammation in Peyer's patches, and toxic substances may be absorbed giving rise to symptoms the same as in typhoid fever. He did not know whether a rash would be present or not. Parietti's test would enable the typhoid bacillus to be found in the urine, but in any catarrhal or inflammatory condition of the urinary tract the Bacillus coli communis would also be present.

Friday, April 24, 1896.

The PRESIDENT in the Chair.

Exhibits.

DR. A. R. PARSONS exhibited specimens of lesions of the gastro-intestinal tract—(*a*) Extensive ulcer of stomach; (*b*) perforating ulcer of duodenum; (*c*) malignant stricture of pylorus; (*d*) fibrous stricture of pylorus (gastro-enterostomy by Murphy's button).

Malignant Tumour and Abnormal Condition of Kidneys.

MR. WHEELER exhibited a specimen of cancerous tumour, removed from a male patient in the City of Dublin Hospital, which extended from the sacro-coccygeal articulation to about the second lumbar vertebra. It could be felt occupying the right and left iliac regions, and could be felt by rectal examination, about four inches from the anus. The patient had lost weight and was of sallow complexion. The tumour was firmly adherent to the sacrum, and when torn away the bone was bared and roughened. The growth was hard and nodular; the enlarged glands were hard but small; superiorly the aorta and inferior vena cava were surrounded by, and almost disappearing in, the tumour. The small intestines and cæcum were distended with air; in the ascending transverse and descending colon could be felt small masses of hardened fæces. The sigmoid flexure was pushed over to the right side of the middle line. The upper part of the rectum was involved and surrounded by the growth, and from the posterior part of the mucous membrane the growth appears to have had its origin. The posterior wall of the bladder was adherent to the tumour; the left ureter was dilated, embedded in, and nipped by the tumour; the right ureter was normal; the left kidney was a dilated cyst; the kidneys presented the horse-shoe variation; the stomach, spleen, and liver were healthy.

DR. MCWEENEY had received part of the tumour for microscopical examination. It was a carcinoma, but could not exactly be called either scirrhus or encephaloid. It had not sufficient fibrous tissue in proportion to the glandular tissue to be called scirrhus.

The shape of the cells was not readily determinable, as the specimen was not in good condition. With reference to the horse-shoe kidney, he wished to know whether both kidneys were displaced downwards and over what vertebræ the connecting band between them passed, and the relations of the ureters?

Mr. Wheeler, replying, said that the ureters were in exactly the normal condition. The kidneys were a little lower down than usual, and the connecting band passed over the second lumbar vertebra.

Pyelitis Calculosa, with Ulceration of Stomach.

Dr. McWeeney read a paper on the above.

The Section then adjourned.

SECTION OF SURGERY.

President—Sir W. Thornley Stoker, F.R.C.S.I., President of the Royal College of Surgeons in Ireland.

Sectional Secretary—Kendal Franks, F.R.C.S.I.

Friday, March 20, 1896.

The President in the Chair.

The Radical Cure of Inguinal Hernia.

Mr. Heuston first described the anatomical structures and relations of the internal abdominal ring and the posterior wall of the inguinal canal in connection with herniæ, drawing particular attention to the importance of the fascia transversalis in strengthening the abdominal walls in this region, and stating that hernia gave rise to a general weakening of this fascia in the inguinal region. He considered that in any operation aiming at radical cure, it was necessary to support and strengthen this fascia, and he believed that the most frequent cause of recurrence after some of the recent operations is owing to neglect of this point. He then mentioned some of the operations now generally recommended, dividing them into those where the inguinal canal is not opened and those where the inguinal canal is opened, and while considering that the results of the second variety were very good as enabling the operator to see which structure required most attention, feared that after a lapse of time recurrence would be likely to occur through absorption of cicatricial tissue. He then described an operation which he himself performed on thirty-two occasions, the patients varying in age between eighteen months and fifty-two years; all of his patients recovered, and, as far as he could ascertain, the hernia has not recurred in any. This operation consists in exposing the inguinal canal, separating the sac from the cord to its full extent, twisting the neck of the sac and ligaturing it by a Staffordshire knot with strong gut, at its exit from the external abdominal ring, then suturing the twisted neck of the sac to the posterior and superior walls of the canal in such a manner as to approximate those walls and cause the twisted sac to become united to the posterior wall and fascia transversalis, thus hindering a recurrence through any portion of the posterior wall of the inguinal canal. Mr. Heuston uses catgut sutures throughout the operation, and depends on inflammatory adhesion to hinder recurrence.

The PRESIDENT said that the great elaboration of detail in operations of this kind showed that none of them contained the principle of success. He himself had operated on a large number of ruptures, and regarded the operation as free from danger when carefully performed. He has long been of opinion that the one thing necessary to ensure success is not any particular method, but the performance of the operation in such a way that, while temporary closure of the inguinal canal during healing is afforded, a copious lymph exudation is produced. He regarded the sutures as serving two purposes—one the temporary closure of the part during convalescence, and the other the provocation of a copious lymph exudation, which is the real means of producing contraction and permanently drawing the parts together. He believed that congenital phimosis was a very frequent cause of inguinal rupture in children. In congenital inguinal rupture he drained the scrotum.

MR. CROLY had tried nearly all the methods mentioned, but within the last fortnight he had performed two operations by the displacement method of Kocher. Mr. Heuston had quoted Kocher as twisting the sac, but Kocher had now given up this practice. If the sac was twisted freely, besides causing necrosis, a bit of the gut was very apt to be nipped. He avoided scrotal wounds when possible, as asepsis was very difficult there. He was surprised to hear catgut recommended for giving support to parts—a stout piece of sterilised silk was better.

MR. BENNETT said that in the present day there was a tendency to the indiscriminate adoption of cutting operations for the radical cure of hernia. In children with congenital inguinal hernia, with proper attention the use of a truss will, in 70 per cent. of the cases, bring about a cure. In operating he followed Mr. Ball's method, which was very successful. He had seen no bad results follow from twisting the sac. Twisting was done sufficiently but not to strangle.

MR. FITZGIBBON, since he first used Ball's method, had never performed a radical cure without trying to do it. Twisting the sac was most dangerous if it was not isolated from everything else. If the sac could be perfectly isolated, he considered twisting as the ideal method of closing it.

Mr. M'Ardle said that the shortening of the transversalis fascia and the cutting away of the sac entirely was the proper operation. If one tried to close the internal abdominal ring it should be done by transversalis fascia. The peritoneum has no influence in preventing a hernia. In inguinal hernia, if the sac is twisted and left it acts as a guide for a hernia to come down. Since 1882 Kocher had not advocated twisting the sac. The great danger in twisting the sac is that a piece of the cæcum might be twisted. In one case he had seen, the greater part of the posterior wall of the sac was formed by the cæcum. He agreed with Mr. Croly that catgut was of no use as a permanent support. He thought that œdema of the scrotum was due to tearing the sac too far down and causing traumatic mischief. He did not resect more than an inch of the sac. He never drained unless there was a great deal of effusion, or unless the gut was gangrenous.

Mr. Lentaigne had passed from one operation to another. He took some trouble to follow up his cases, and found that a good many of the earlier ones had recurred. About two years ago he had adopted Mr. Halsted's operation. He found it so satisfactory that he has performed it frequently since. Not one of these cases had recurred so far. He agreed with the President as to the value of lymph effusion, but thought that good stout silk sutures greatly helped to keep the parts in position. He never found the silk cause any trouble. Halsted's method would fail if the sutures were too far apart. Catgut was purely a temporary means of holding tissues together. In children a year old or less the hernia could often be cured by use of a truss, but when the second or third year was passed not much could be hoped for by this method, although it should always be tried first. He always took the sac away from the scrotum, and usually drained in such cases from the bottom of the scrotum. Previously he had had a case of a kind of hydrocele, and another, in which unfortunately sepsis had occurred, extensive suppuration had taken place in a large sac which was left behind in the scrotum. In draining at the scrotum or in any other place where the parts might be contaminated, he placed a good big piece of gauze charged with antiseptic material over the drainage-tube and stitched it to the skin by a row of catgut sutures about an inch all round the wound. At the end of five or six days the sutures were absorbed. Celloidin might be better than catgut sutures. It was more quickly applied.

Mr. Wheeler said that after the radical cure of hernia it was not advisable to apply any pressure over the part, as pressure tends to cause absorption of the material thrown out, and so tended to produce a return of the hernia. Young children did not bear the operation well. He agreed with Mr. Bennett that many could be cured by a truss. He had a patient over forty years of age who declined operation, and who wore a truss for two and a-half years and was cured.

Mr. Gordon said that kangaroo tendon had the advantage over catgut in remaining as a support for the part for several months, and the advantage over silk in not remaining permanently.

Mr. Heuston, replying, said he agreed with the President that the cure did not depend on the sutures but on the plastic inflammation set up. That is why he recommended the twisted sac to be left through all the length of the canal. The weak point of Ball's operation was that the sac was cut off too close. Otherwise it was an excellent operation. He objected to silver and silk sutures, as months afterwards they might set up inflammation and suppurate out. He did not agree with Mr. M'Ardle in leaving the sac below, after Barker's (?) method. Colley, of New York, had reported 168 cases without one failure, operated on by Bassini's method. He recommended kangaroo tendon.

Indian Operation for Restoration of the Nose Modified.

Mr. Robert H. Woods read a paper on the above subject. The patient, a female, aged twenty-nine, had had the cartilaginous nose, destroyed by lupus. The forehead flap was cut according to Dieffenbach's pattern. The skin from the bridge of the nose was detached and reflected downwards, so that the raw surface looked forwards and the skin backwards towards the nasal cavity, the raw surface of this triangle was adapted to that of the forehead flap, and so formed a portion of the skin lining the new nose. The lining was completed by the flaps inverted to form the alæ. Thus the whole new nose was lined with skin, and the tendency to contraction which is always present where a surface is left to granulate and cicatrise was obviated. The forehead surface instead of being sutured was covered by a flap of skin, transplanted from the arm as in Wolfe's method. This completely healed and perfectly covered the deficiency. The advantages of transplantation were that it avoided the unsightliness of a scar, and by doing away with the necessity for economy in the forehead flap, allowed a sufficient quantity of skin to be taken away to completely line the nose and so avoid contraction of the nostrils from cicatrisation of raw surfaces.

The President said that the patient was originally cured by him of lupus. She pressed him on several occasions to perform a plastic operation, but he declined as lupus had not cicatrised sufficiently. The chief interest he thought was not the mere reproduction of the nose, as much as the large transplantation of the skin from the arm. He thought it was too soon to be sure that there would be no contraction of the nostrils.

Mr. Bennett wished to know if any note had been taken of the sensibility of the skin forming the new nose. His experience was that sensibility returned about the 10th to the 14th day. It was at first dull. He had operated on several patients of the late Mr. Hamilton, in whom the nostrils had become occluded owing to cicatricial contraction. When the columella was not united to the upper lip, he found that there was no cicatricial contraction.

Mr. Wheeler had operated on about six similar cases. The great difficulty was to get union by the first intention. If that was obtained contraction rarely followed. The columella might slough from being bent too much. This could, however, be remedied by taking a V-shaped piece of skin from the upper lip and stitching it up. In Syme's operation flaps were taken from the adjacent portions of the cheeks and turned over. The patient must be a fat person to allow of this being done. He found small pins better than sutures in bringing the edges of the wound together. He never could satisfy himself about the sensibility of the restored nose. In a patient operated on by Syme's method, sensation had returned on one side and not on the other. He wished to know whether a pseudo-mucous membrane developed on the inside surface of the nose, and whether the secretion from the nose scalded the parts.

Mr. Lentaigne said that Mr. Woods had modified the Indian operation by adding a Wolfe's operation of transplanting skin. It remained to be seen whether the new nose could not be formed by some form of Wolfe's operation alone. Latterly he had transplanted skin a good deal and found it easy and generally successful.

Mr. Woods, replying, said he had tested the sensibility of the new nose. He always referred it to the place it originally occupied on the forehead, but he had not divided the pedicle and so probably sensation was conducted by some twigs from the supraorbital. The flap on the forehead, which had been taken from the arm, was absolutely wanting in sensibility. Practically the whole of the inside of the nose was lined by skin, and therefore no surface was left to granulate and cicatrise. He had not noticed any pseudo-mucous membrane. There was no secretion from the nose.

The Section then adjourned.

SANITARY AND METEOROLOGICAL NOTES.

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Vital Statistics

For four Weeks ending Saturday, August 8, 1896.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000:—

Towns	Weeks ending				Towns	Weeks ending			
	July 18.	July 25.	Aug. 1.	Aug. 8.		July 18.	July 25.	Aug. 1.	Aug 8.
Armagh -	14·0	21·0	7·0	21·0	Limerick -	11·2	7·0	9·8	14·0
Belfast -	23·7	21·1	21·1	21·4	Lisburn -	29·8	12·8	8·5	17·0
Cork -	24·9	16·6	28·4	18·7	Londonderry	22·0	17·3	12·6	20·4
Drogheda -	0·0	4·4	17·6	13·2	Lurgan -	9·1	22·8	4·6	9·1
Dublin -	26·0	23·1	26·7	23·7	Newry -	20·1	16·1	12·1	8·1
Dundalk -	4·2	4·2	16·8	0·0	Sligo -	15·2	5·1	30·5	5·1
Galway -	11·3	22·7	15·1	3·8	Waterford -	25·0	20·0	12·5	27·5
Kilkenny -	42·5	4·7	18·9	23·6	Wexford -	18 1	13·5	27·1	18·1

In the week ending Saturday, July 18, 1896, the mortality in thirty-three large English towns, including London (in which the rate was 22·3), was equal to an average annual death-rate of 21·4 per 1,000 persons living. The average rate for eight principal towns of Scotland was 18·1 per 1,000. In Glasgow the rate was 19·1. In Edinburgh it was 15·6.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 23·2 per 1,000 of the population, which, for the purposes of this Return, is estimated at 908,567.

The deaths from the principal zymotic diseases in the sixteen

districts were equal to an annual rate of 4·1 per 1,000, the rates varying from 0·0 in nine of the districts to 5·5 in Belfast—the 126 deaths from all causes registered in that district comprising 5 from measles, 2 from scarlatina, 5 from whooping-cough, 1 from diphtheria, 6 from enteric fever, and 10 from diarrhœa. The 36 deaths in Cork comprise 1 from enteric fever and 1 from diarrhœa. Among the 14 deaths in Londonderry are 3 more from measles; and the 10 deaths in Waterford comprise 2 from diarrhœa.

In the Dublin Registration District the registered births amounted to 235—123 boys and 112 girls; and the registered deaths to 179—97 males and 82 females.

The deaths, which are 25 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 26·7 in every 1,000 of the population. Omitting the deaths (numbering 5) of persons admitted into public institutions from localities outside the district, the rate was 26·0 per 1,000. During the first twenty-nine weeks of the current year the death-rate averaged 24·4, and was 4·2 under the mean rate in the corresponding period of the ten years 1886–1895.

Thirty-eight deaths from zymotic diseases were registered, being 12 over the average for the corresponding week of the last ten years, and 1 over the number for the previous week. They consist of 3 from scarlet fever (scarlatina), 1 from typhus, 2 from influenza and its complications, 4 from whooping-cough, 2 from enteric fever, 1 from choleraic diarrhœa, 24 from diarrhœa, and 1 from erysipelas. The deaths from diarrhœa, which are 14 in excess of the average for the corresponding week of the last ten years, and 5 over the number for the previous week, include the deaths of 20 children under 5 years of age, of whom 13 were infants under 1 year old.

The number of cases of enteric fever admitted to hospital was 15, being 3 under the admissions in the preceding week, and 4 over those in the week ended July 4. Six enteric fever patients were discharged, and 68 remained under treatment on Saturday, being 9 over the number in hospital at the close of the preceding week.

Forty cases of scarlatina were admitted to hospital, against 31 in the preceding week and 32 in that ended July 4. Twenty-eight patients were discharged, 1 died, and 219 remained under treatment on Saturday, being 11 over the number in hospital at the close of the preceding week.

Only 15 deaths from diseases of the respiratory system were registered, being 6 below the average for the corresponding week of the last ten years, and 2 under the number for the previous week. The 15 deaths comprise 8 from bronchitis and 5 from pneumonia or inflammation of the lungs.

In the week ending Saturday, July 25, the mortality in thirty-three large English towns, including London (in which the rate was 25·3). was equal to an average annual death-rate of 24·8 per 1,000 persons living. The average rate for eight principal towns of Scotland was 18·3 per 1,000. In Glasgow the rate was 20·7, and in Edinburgh it was 15·4.

The average annual death-rate in the sixteen principal town districts of Ireland was 19·7 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 4·1 per 1,000, the rates varying from 0·0 in eight of the districts to 5·1 in Sligo, where 1 death from whooping-cough was registered. Among the 112 deaths from all causes registered in Belfast are 2 from measles, 3 from scarlatina, 4 from whooping-cough, 4 from enteric fever, and 7 from diarrhœa. The 24 deaths in Cork comprise 2 from diarrhœa. Among the 11 deaths in Londonderry are 2 from diarrhœa, and the 8 deaths in Waterford comprise 2 from diarrhœa.

In the Dublin Registration District the registered births amounted to 167—76 boys and 91 girls; and the registered deaths to 159—83 males and 76 females.

The deaths, which are 1 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 23·7 in every 1,000 of the population. Omitting the deaths (numbering 4) of persons admitted into public institutions from localities outside the district, the rate was 23·1 per 1,000. During the first thirty weeks of the current year the death-rate averaged 24·4, and was 4·0 under the mean rate in the corresponding period of the ten years 1886–1895.

The deaths from zymotic diseases amounted to 49, being 24 over the average for the corresponding week of the last ten years, and 11 over the number for the previous week. They comprise 1 from scarlet fever (scarlatina), 1 from influenza, 3 from whooping-ing-cough, 4 from choleraic diarrhœa, and 39 from diarrhœa. The deaths from diarrhœa, which are 29 in excess of the average for the corresponding week of the last ten years, and 15 over the number for the previous week, include the deaths of 36 children under 5 years of age, of whom 24 were infants under 1 year old.

The number of cases of enteric fever admitted to hospital was 18, being 2 under the admissions in the preceding week, and 5 under those in the week ended July 11. Eight enteric fever patients were discharged, 1 died, and 72 remained under treatment on Saturday, being 4 over the number in hospital at the close of the preceding week.

The weekly number of cases of scarlatina admitted to hospital, which had risen from 31 in the week ended July 11 to 40 in the following week, fell again to 31. Forty-four patients were discharged, and 206 remained under treatment on Saturday, being 13 under the number in hospital at the close of the preceding week.

Only 18 deaths from diseases of the respiratory system were registered, being 7 under the average for the corresponding week of the last ten years, and 2 under the low number in the previous week. They consist of 10 from bronchitis and 1 from each of the following—pneumonia or inflammation of the lungs, croup, and pleurisy.

In the week ending Saturday, August 1, the mortality in thirty-three large English towns, including London (in which the rate was 24·3), was equal to an average annual death-rate of 24·4 per 1,000 persons living. The average rate for eight principal towns of Scotland was 17·6 per 1,000. In Glasgow the rate was 19·4, and in Edinburgh it was 15·2.

The average annual death-rate represented by the deaths registered in the sixteen principal town districts of Ireland was 22·2 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 3·4 per 1,000, the rates varying from 0·0 in eleven of the districts to 4·8 in Cork—the 41 deaths from all causes registered in that district comprising 1 from whooping-cough and 6 from diarrhœa. Among the 112 deaths registered in Belfast are 4 from measles, 3 from scarlatina, 4 from whooping-cough, 1 from diphtheria, 1 from enteric fever, and 6 from diarrhœa.

In the Dublin Registration District the registered births amounted to 201—106 boys and 95 girls; and the registered deaths to 184—101 males and 83 females.

The deaths, which are 36 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 27·4 in every 1,000 of the population. Omitting the deaths (numbering 5) of persons admitted into public institutions from localities outside the district, the rate was 26·7 per 1,000. During the first thirty-one weeks of the current year the death-rate averaged 24·5, and was 3·7 under the mean rate in the corresponding period of the ten years 1886-1895.

The number of deaths from zymotic diseases registered was 42, being 17 over the average for the corresponding week of the last ten years, but 7 under the number for the previous week. The 42 deaths comprise 2 from scarlet fever (scarlatina), 2 from influenza and its complications, 3 from whooping-cough, 2 from diphtheria, 2 from enteric fever, 6 from simple cholera and choleraic diarrhœa, and 22 from diarrhœa. The deaths from diarrhœa, although 12 in excess of the average for the corresponding week of the last ten years, show a decline of 17 as compared with the number for the previous week. They include the deaths of 17 children under five years of age, of whom 13 were under one year old.

Thirteen cases of enteric fever were admitted to hospital, being equal to the admissions in the preceding week, but 2 under the number in the week ended July 18. Nine enteric fever patients were discharged, and 76 remained under treatment on Saturday, being 4 over the number in hospital at the close of the preceding week.

The number of cases of scarlatina admitted to hospital was 34, being 3 over the admissions in the preceding week, but 6 under those in the week ended July 18. Thirty-seven patients were discharged, 1 died, and 202 remained under treatment on Saturday, being 4 under the number in hospital on that day week.

Only 11 deaths from diseases of the respiratory system were registered, being 5 under the average for the corresponding week of the last ten years, and 2 under the low number for the previous week. They comprise 5 from bronchitis and 5 from pneumonia or inflammation of the lungs.

In the week ending Saturday, August 8, the mortality in thirty-three large English towns, including London (in which the rate was 21·1), was equal to an average annual death-rate of 21·4 per 1,000 persons living. The average rate for eight principal towns of Scotland was 15·4 per 1,000. In Glasgow the rate was 17·7, and in Edinburgh it was 11·5.

The average annual death-rate in the sixteen principal town districts of Ireland was 20·6 per 1,000 of the population.

The deaths from the principal zymotic diseases registered in the sixteen districts were equal to an annual rate of 4·4 per 1,000, the rates varying from 0·0 in eight of the districts to 10·0 in Waterford—the 11 deaths from all causes registered in that district comprising 1 from whooping-cough and 3 from diarrhœa. Among the 114 deaths from all causes registered in Belfast are 1 from measles, 5 from scarlatina, 6 from whooping-cough, 1 from simple continued fever, 1 from enteric fever, and 12 from diarrhœa. The 13 deaths in Londonderry comprise 2 from scarlatina and 1 from enteric fever.

In the Dublin Registration District the registered births amounted to 203—108 boys and 95 girls; and the registered deaths to 161—70 males and 91 females.

The deaths, which are 8 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 24·0 in every 1,000 of the population. Omitting the deaths (numbering 2) of persons admitted into public institutions from localities outside the district, the rate was 23·7 per 1,000. During the first thirty-two weeks of the current year the death-rate averaged 24·5, and was 3·6 under the mean rate in the corresponding period of the ten years 1886–1895.

Forty-six deaths from zymotic diseases were registered, being 18 in excess of the average for the corresponding week of the last ten years, and 4 over the number in the previous week. They comprise 1 from measles, 1 from influenza, 4 from whooping-cough, 2 from diphtheria, 3 from enteric fever, 8 from simple cholera and choleraic diarrhœa, and 29 from diarrhœa. The deaths from diarrhœa are 16 in excess of the average for the corresponding week of the last ten years and 7 over the number for the previous week, but 10 under the number for the week ended July 25. They include the deaths of 24 children under five years of age, of whom 16 were infants under one year old.

Twenty cases of enteric fever were admitted to hospital, against 13 in each of the two weeks preceding. Seven enteric fever patients were discharged, 2 died, and 87 remained under treatment on Saturday, being 11 over the number in hospital on that day week.

The number of cases of scarlatina admitted to hospital was 34, being equal to the admissions in the preceding week: 33 patients were discharged, and 203 remained under treatment on Saturday, being 1 over the number in hospital at the close of the preceding week.

Only 5 deaths from diseases of the respiratory system were registered, being 6 under the low number for the preceding week, and 11 under the average for the thirty-second week of the last ten years. They consist of 4 from bronchitis and 1 from croup.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ *N., Long.* 6° 15′ *W., for the Month of July,* 1896.

Mean Height of Barometer,	30·006 inches.
Maximal Height of Barometer (on 17th, at 9 a.m.),	30·372 ,,
Minimal Height of Barometer (on 25th, at 4 p.m.),	29·419 ,,
Mean Dry-bulb Temperature,	59·7°.
Mean Wet-bulb Temperature,	56·2°.
Mean Dew-point Temperature,	53·2°.
Mean Elastic Force (Tension) of Aqueous Vapour,	·407 inch.
Mean Humidity,	79·8 per cent.
Highest Temperature in Shade (on 18th),	76·7°.
Lowest Temperature in Shade (on 28th),	45·0°.
Lowest Temperature on Grass (Radiation) (on 28th),	41·0°.
Mean Amount of Cloud,	61·8 per cent.
Rainfall (on 18 days),	5·474 inches.
Greatest Daily Rainfall (on 24th),	2·020 ,,
General Directions of Wind,	S.W., W., N.W.

Remarks.

A generally favourable month, characterised, however, by occasional torrential rainfalls, particularly in Ireland, and by preceding bursts of almost tropical heat in England and on the Continent. In the Dublin district rainstorms of exceptional violence occurred on the 8th (1·563 inches) and 24th (2·020 inches). The rainfall measurement on the 24th—2·020 inches—was the largest recorded in Dublin since May 28th, 1892, when 2·056 inches fell within the 24 hours ending at 9 a.m. On the 25th a thunderstorm passed over the Killiney and Kingstown district, accompanied by torrents of rain. At Cloneevin, Killiney, 1·90 inches fell between 2 45 p.m. and 4 p.m., being at the rate of 36·5 inches in 24 hours. During the same storm 0·66 inch fell at Fassaroe, Co. Wicklow, in about 30 minutes, some time between 2 30 p.m. and 3.15 p.m., this rate being equal to 31·68 inches in 24 hours. As often happens in July, the wind repeatedly drew into N.W. in Ireland, temperature falling briskly with each such change of direction. The London district received no rain in the week ending Saturday, the 25th, when the measurement in Dublin was 2·95 inches. On Tuesday, the 21st, the thermometer rose to 88° both in London and at Cambridge.

In Dublin the arithmetical mean temperature (60·9°) was slightly above the average (60·6°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 59·7°. In the thirty-one years ending with 1895, July was coldest in 1879 ("the cold year") (M. T. = 57·2°). It was warmest in 1887 (M.T. = 63·7°); and in 1868 (the "warm year") (M. T. = 63·5°). In 1895 the M. T. was 59·2°.

The mean height of the barometer was 30·006 inches, or 0·091 inch above the corrected average value for July—namely, 29·915 inches. The mercury marked 30·372 inches at 9 a.m. of the 17th, and fell to 29·419 inches at 4 p.m. of the 25th. The observed range of atmospheric pressure was, therefore, 0·953 inch.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 59·7°, or 0·6 below the value for June, 1896. Using the formula, *Mean Temp.* = *Min.* + (*max.* —*min.* × ·465), the value was 60·4°, or 0·2° above the average mean temperature for July, calculated in the same way, n the twenty-five years, 1865–89, inclusive (60·2°). The arithmetical mean of the maximal and mininal readings was 60·9°, compared with a twenty-five years' average of 60·6°. On the 13th the thermometer in the screen rose to 76·7°—wind, S.W.; on the 28th the temperature fell to 45·0°—wind, N.W. The minimum on the grass was 41·0°, also on the 28th.

The rainfall was 5·474 inches, distributed over 18 days. The average rainfall for July in the twenty-five years, 1865–89, inclusive, was 2·420 inches, and the average number of rainy days was 17·2. The rainfall, therefore, was largely above—in fact, more than twice—the average, while the rainy days were somewhat above it. In 1880 the rainfall in July was very large—6·087 inches on 24 days; in 1871, also, 4·391 inches fell on 28 days; and in 1895, 4·503 inches on 16 days. On the other hand, in 1870, only ·539 inch was measured on 8 days; in 1869 the fall was only ·739 inch on 9 days; and in 1868 only ·741 inch fell on but 5 days.

High winds were noted on only 3 days, and attained the force of a gale on only one occasion—the 4th. Temperature reached or exceeded 70° in the screen on 9 days. In July, 1887, temperature reached or exceeded 70° in the screen on no fewer than 17 days. In 1888, the maximum for July was only 68·7°.

Lightning was seen on the 9th. A thunder storm occurred on the afternoon of the 25th. A solar halo was seen on the 10th. The atmosphere was rather foggy on the 9th and 24th.

The weather of the period ended Saturday, the 4th, was changeable and unsettled, with strong and squally westerly winds, frequent showers, and unsteady temperature. A fresh W. gale blew on

Saturday. The force of the wind was unusually great for the time of year. It was determined not so much by the presence of any deep atmospheric depressions over N.W. Europe, as by the persistence of an area of high barometric pressure (anticyclonic system) over the Bay of Biscay and the Iberian Peninsula. In this way steep gradients for W. winds were formed over the British Islands. On Wednesday, the 1st, great heat set in over the North of Scandinavia, culminating in a temperature of 91° at Haparanda, on the Gulf of Bothnia, on Thursday and Friday. At 8 a.m. of Friday the thermometer read 75° at that station, but only 49° at Munich, some 17° farther S. Saturday was a wild, blustering day, owing to the approach of a new depression to our N.W. coasts. In the afternoon heavy showers fell and stayed a plague of dust. In Dublin the barometer ranged from 30·121 inches at 9 p.m. of Wednesday (wind N.W.) to 29·774 inches at 4 p.m. of Friday (wind, W.). On Friday the screened thermometers rose to 69·5°, on Saturday they fell to 53·5°. The rainfall was ·266 inch on four days—·114 inch was measured on Thursday. The prevailing winds were N.W. and W.

The most noteworthy feature in the climatological record of the week ended Saturday, the 11th, was the rainstorm which affected Ireland and North Wales, and (to a less extent) the North of England and the South of Scotland on Wednesday and Thursday. At the beginning of the period the weather was fine and warm. On Monday a shift of wind to the northward, while the cloud-current was still south-westerly, caused a heavy rainfall at several Irish stations—1·28 inches at Donaghadee, 0·64 inch at Parsonstown, and 0·34 inch in Dublin. The chill which led to the precipitation had already occurred at Donaghadee at 8 a.m. on Monday, but did not reach Dublin until 6 45 p.m. In the course of the following day thunderstorms of great severity occurred in the midland and eastern counties of England. In London rain only threatened, and the thermometer rose to 86° in the shade. On Wednesday a complex depression advanced over Ireland from W. and rain fell in torrents, accompanied by sheet lightning at night and by thunder at Holyhead, Youghal, Liverpool, and Shields. Fog formed over the Irish Sea early on Thursday morning, while the rainstorm was at its worst. The wind soon shifted to N. and N.E., and towards evening of Thursday the weather became fair and bracing. At night the screened thermometers fell to 42° at Parsonstown, 43° at Nairn, 44° at Stornoway, and 47° at Wick and Valentia as well as in Dublin. The last two days of the week were very fine, and summer heat returned on Saturday. Marked 'visibility' was observable on Saturday evening. In Dublin the mean height of the barometer was 30·022 inches, the extremes being—lowest, 29·715 inches at 9 p.m. of Wednesday (wind, S.E.); highest, 30·230 inches at 9 p.m. of Friday (wind, E.S.E.). The corrected mean temperature was 59·8°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 59·5°. On Saturday the screened thermometers rose to 74·1°, having fallen to 47·1° on Friday. The rainfall was 2·078 inches on three days, 1·563 inches being registered on Wednesday. The wind was very variable in direction. At Greystones, Co. Wicklow, the rainfall was 2·370 inches on three days, 1·020 inches falling on Wednesday, 1·075 inches on Thursday.

Changeable but favourable weather was recorded during the week ended Saturday, the 18th. At first an anticyclone embraced England, Belgium, and the North of France. It was attended by a great heat-wave, the thermometer rising to 86° in the shade on Monday in London and Paris and at Cambridge. Even in Dublin the maximum on that day was 77°. An irregular and shallow depression now moved in from the Atlantic, causing clouds, showers, and a fall of temperature. This system still had its centre over Holland on Friday morning, when, however, it was filling up. In its rear an area of high atmospheric pressure advanced over Ireland from the Atlantic. This rendered the gradients for polar winds rather steep over the British Islands, and accordingly cold, squally northerly breezes set in, being accompanied by gloomy, chilly, rainy weather in the east and south-east of England. In London the maximal temperature for the 24 hours ending 8 a.m. of Friday was 58°, or 28° below the reading recorded on Monday. As the anticyclone moved southeastward on Friday, the wind backed towards W. in Ireland and moderated with a much higher temperature but very clouded skies. In Dublin the mean barometric reading was 30·219 inches, pressure ranging from 29·995 inches at 9 a.m. of Tuesday (wind, S.W.) to 30·372 inches at 9 a.m. of Friday (wind, N.). The corrected mean temperature was 61·9°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 61·5°. On Monday the maximum in the screen was 76·7°, on Thursday the minimum was 47·6°. Rain fell on the first three days to the amount of ·042 inch only, ·020 inch being measured on Tuesday. The prevailing winds were S.W. and N.

As regards the week ended Saturday, the 25th, warm and summerlike at first, the weather soon fell into an unsettled rainy condition, so far as Ireland, Scotland, and the North of England were concerned. In the south and east of the last-named country, the heat became almost tropical and very little rain fell until quite the close of the period. On Tuesday the thermometer rose to 88° in the shade in London and at Cambridge. During Sunday and Monday an anticyclone overlay the southern half of the British Isles. A warm S.W. wind prevailed in Ireland, sending the thermometer up to 72° at Donaghadee and Parsonstown, and to 75° in Dublin on Sunday, and to 73° in Dublin and at Parsonstown on Monday. A complex V-shaped depression spread eastward across Ireland on Monday night, causing rain, a shift of wind to N.W. and a brisk fall of temperature. Wednesday was a bright, bracing day, with a very dry atmosphere—at 2 p.m. the percentage of relative humidity fell to 48. Local showers occurred towards evening. On Thursday the barometer fell steadily as another complex depression came in from the Atlantic, momentarily growing deeper. The system continued to develop until Saturday afternoon, when the barometer read only 29·42 inches in Dublin. It caused torrential rains for the second time in the present month on the shores of the Irish Sea and St. George's Channel, which rains were, on Saturday afternoon, accompanied by thunder and lightning. In Dublin the mean height of the barometer was 29·875 inches, pressure ranging between 30·178 inches at 9 a.m. of Sunday (wind, W.S.W.) and 29·419 inches at 4 p.m. of Saturday (wind, S.W.). The corrected mean temperature was 61·7°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 60·5°. On Sunday the screened thermometers rose to 75·0°, on Wednesday they fell to 52·0°. The rainfall was 2·954 inches on five days, 2·020 inches being measured on Friday. The prevailing winds were W.S.W. and N.W. A thunderstorm occurred on Saturday afternoon.

Although changeable in the middle of the period ending Friday, the 31st, the weather was much fairer and drier than that of the previous week. On Sunday the depression which had caused such heavy rains at the close of the preceding period, was still found off the W. of Scotland, while a "secondary" system was moving towards E.N.E. across the S. of England. Gusty N.W. winds and passing showers prevailed in Dublin, while a heavy fall of rain amounting to ·54 inch occurred in London, accompanied by thunder and lightning. By Monday morning the main depression had travelled eastward and lay between the N.E. of Scotland and S.W. of Norway. It was quickly filling up. N.W. winds and cool, cloudy weather were reported. Towards night the sky cleared and temperature fell fast, the minima in Dublin being 45° in the screen and 41° on the grass. At Nairn 41° in the screen was recorded. On Tuesday night the thermometer sank to 36° on the grass at Oxford. At this time a new depression was showing off the N.W.

of Ireland, its advent being heralded by the appearance of cirrus cloud in which parhelia developed. This disturbance suddenly changed its course and travelled in a south-easterly direction across Ireland. The wind was first S.W., afterwards N.E., but notwithstanding this abrupt change in direction rainfall was not heavy, except at Valentia Island (·73 inch), Donaghadee (·74 inch), Ardrossan (·85 inch), and in London (·35 inch). On Thursday in Dublin the weather was at first dull, but afterwards became fair and bright, and so continued to the end. The barometer in this city ranged between 30·189 inches at 9 a.m. of Tuesday (wind, N.W.), and 29·677 inches at 9 p.m. of Wednesday (wind, S.W.). On Tuesday the screened thermometers fell to 45·0°; on Wednesday they rose to 66·7°. Rain fell on three days to the amount of ·134 inch, ·070 inch being measured on Wednesday. The prevailing winds were N.W. and N.E.

The rainfall in Dublin during the seven months ending July 31st amounted to 13·328 inches on 102 days, compared with 16·785 inches on 96 days in 1895, 18·133 inches on 130 days in 1894, 11·666 inches on 92 days in 1893, 7·935 inches on 80 days in 1887, and a twenty-five years' average of 14·733 inches on 112·6 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall in July was 5·726 inches on 16 days, compared with 3·680 inches on 16 days in 1895, 3·805 inches on 19 days in 1894, and 1·290 inches on 15 days in 1893. Of the total rainfall 1·881 inches fell on the 24th, 1·075 inches on the 9th, and 1·020 inches on the 8th. The total fall since January 1 has been 13·082 inches on 77 days, compared with 17·950 inches on 83 days in 1895, 21·186 inches on 115 days in 1894, and 13·066 inches on 90 days in 1893.

At Cloneevin, Killiney, Co. Dublin, the rainfall in July was 6·72 inches on 20 days, compared with a ten years' average of 2·035 inches on 13·9 days. On the 25th the rainfall was 1·98 inches. In July, 1895, 3·58 inches fell on 17 days, in 1894 4·08 inches fell on 23 days. Since January 1, 1896, 13·90 inches of rain have fallen on 90 days at this station (Cloneevin), so that the rainfall in July nearly equalled that of the previous six months.

PERISCOPE.

EXAMINATION OF CANDIDATES FOR HER MAJESTY'S ARMY AND INDIAN MEDICAL SERVICES.

Chemistry and Materia Medica.—Dr. Shore. Friday, 7th August, 1896, from 10 a.m. till 1 p.m. N.B.—The replies to be written with the ink provided, and not with a pencil or pale ink. 1. Describe the chemical properties of boron and its compounds. How is boracic acid prepared? 2. What are the chemical properties of the constituents of (*a*) gallstones, (*b*) urinary calculi? State concisely how you would analyse a urinary calculus. 3. Describe carefully how you would proceed to determine the presence of mercury in—(*a*) a vomit; (*b*) the tissues of the body; in a case of suspected poisoning. 4. What is an astringent? In what different ways may astringents act? Give an account of their practical uses. 5. Give an account, with examples, of drugs which produce alterations of sensation. Describe the several modes of action of the drugs you mention, so far as concerns their action on sensation.

Surgery.—Sir William MacCormac. Friday, 7th August, 1896, from 2 p.m. till 5 p.m. All four questions to be answered. 1. What abnormal conditions may be associated with an imperfect descent of the testicle? How will you deal with them? 2. Enumerate the causes of chronic otitis media. Give the symptoms of the disease, and the complications which may take place, with the diagnosis and treatment of each. 3. What causes may produce enlargement of the lower extremity of the femur? Give the diagnosis and treatment. 4. Give the etiology, mode of formation, diagnosis, and treatment of cystic swellings of the superior maxillary bone.

Anatomy and Physiology.—Mr. Makins. Saturday, 8th August, 1896, from 2 p.m. till 5 p.m. 1. Describe the pharynx, particularly in regard to its internal conformation, and give the origin and insertion of the pharyngeal muscles. 2. Describe the mode of formation of the sacral plexus, tracing the origin of the branches from their respective spinal nerve roots. Give the relations of the plexus in the pelvis. 3. What circumstances affect the amount of urea excreted daily? Give the principal views as to the origin of this body, and describe how it may be prepared from a sample of urine. 4. Give a short account of what is known as to the localisation of function in the cerebral cortex in the frontal and parietal regions.

Medicine.—Dr. Allchin. Saturday, 8th August, 1896, from 10 a.m. to 1 p.m. 1. State the diagnosis you would have made of the following case and the grounds of your opinion. Describe the *post-mortem* appearances you would have expected to find:—Charlotte A., aged fifty-three, a tailoress, was admitted into the hospital at the end of February, 1895, complaining of great pain and distension of the abdomen. Her father died at the age of 60 of Bright's disease, and her mother at the age of 77 of chronic bronchitis, and an uncle was said to have died of cancer. There was no history of gout, rheumatism or phthisis in the family. The patient has lived for the past 30 years in London, previously in various parts of the country. She was married at the age of 20, but has had no children. She had measles when a child, but no other acute illness. In 1880 patient states that she suffered with "pain in her heels," which lasted for some months and was followed by "swelling," which commenced in the feet and ankles and then spread all over the body, slowly increasing in extent until, in 1882, she was admitted to hospital where she stayed a month and left much relieved. (No record of her condition then could be obtained). After leaving the hospital she resumed work and continued well for the next five or six years, when the "swelling" reappeared and she kept her bed at home for about six weeks, after which she was much better and continued her ordinary duties until November, 1893, when she suffered from severe flooding connected with the menopause. She again recovered and remained well until Christmas, 1894, when the swelling in the abdomen reappeared, and to a less degree in the legs, accompanied by pain in the abdomen and back. This condition increased until her admission in March, 1895. She has always been temperate, taking stimulants only in small quantities at irregular intervals. Has never noticed anything wrong with her urine. On admission patient was found to weigh 18 stone 2½ lbs., being about 2 stone less than when she was in the hospital in 1882. The extreme fatness involves the trunk and limbs, and is general. Venules of face dilated, cheeks flabby and pendulous. Abdomen measures 53 inches at umbilicus, and the lower margin of thorax measures the same. Considerable œdema of feet and legs, which "pit" on pressure; no puffiness of eyelids. There is general dulness over the abdomen, which is tense, and an indistinct fluid thrill is perceptible, but owing to the great bulk of the patient only very uncertain information could be obtained as to the shifting of the area of dulness on moving the patient. Urine acid, sp. gr. 1010, no albumen, no sugar, and is normal in quantity. The cardiac impulse feeble to touch, but is communicated to large pendulous mamma; the area of dulness of the heart is ascertainable with difficulty, owing to the thickness of the subcutaneous fat; the sounds are normal in character. Pulse 88, soft and regular; vessels not rigid. The resonance over the lungs is generally good, back and front, and except a few bronchitic sounds over the front of the chest, nothing abnormal is detected. Respirations 32, and there is an occasional dry cough. Temperature, 99°. During the next ten days the patient remained in bed, and the œdema of the legs subsided, but the girth of the abdomen somewhat increased, and on 8th March she was tapped and nearly 25 pints of clear, straw-coloured fluid, containing a few pus cells, was withdrawn from the peritoneal cavity. On examination of the abdomen after the operation a nodulated hard swelling, about 4 inches in diameter, was felt in the lower part of the left hypochondrium, quite superficial and somewhat moveable, and tender on pressure. The condition of the patient improved slightly and she left the hospital after being in five weeks. After an interval of three weeks patient was readmitted suffering from great dyspnœa and increased distension of abdomen, with œdema of her legs. She said she had kept her bed since she left the hospital, and had steadily become worse. Seventeen pints of fluid, similar to that withdrawn on the previous occasion, were removed from the abdominal cavity, but with little or no improvement in her condition. The dyspnœa was considerable. Some dulness over the lower part of the chest posteriorly, and the sputum was tinged with altered blood. Pulse 90 to 100, small and feeble. She progressively became worse and died 20 days after her readmission. Nine days before her death the right leg became livid and cold. Her temperature until the day of her death was never above normal. 2. Mention the various complications which may result from a chronic bronchitis, and describe in full detail the means you would adopt for their treatment. 3. Discuss the causation and nature of fever. 4. Describe the state to which the term "coma" is applied, and enumerate the conditions which may determine its occurrence.

Natural Sciences.—Dr. Shore. Thursday, 13th August, 1896, from 10 a.m. till 1 p.m. Candidates for the Army Medical Staff must confine themselves to *two* branches of science only. Candidates for the Indian Medical Service should answer not more than *six* questions, and they are recommended to confine themselves to *two* branches of science only. *Zoology and Comparative Anatomy*:—

1. Describe the distinctive characters of the *chelonia*. 2. Give an account of the structure of a scorpion. 3. Compare the hydra with an earthworm on the one hand, and the bell-animalcule on the other. *Botany*:—1. Illustrate the value of the characters of the fruit in the classification of plants. Describe the fruits of geranium, wallflower, apple, hemlock, and rose. 2. Describe the life history of a fern. 3. Compare the algæ and fungi in regard to—(*a*) General structure; (*b*) Nature of their necessary food. *Physics*:—1. What is a saccharimeter? Describe the physical principles on which its construction and use depend. 2. Describe the various kinds of thermometer, discussing the advantages, or otherwise, of the different kinds, when used for special purposes. 3. Describe the aurora borealis. State what you know of its supposed cause and its connection with other physical phenomena. *Physical Geography and Geology*:—1. Describe the characters of the following rocks: Limestone, pumice, peat, conglomerate, and coral. 2. Describe, with the aid of diagrams, the solar and lunar eclipses. 3. Give an account of the different kinds of natural springs with which you are acquainted.

ARMY MEDICAL STAFF.

The following is the official list of successful candidates for Commissions in the Medical Staff of Her Majesty's Army at the recent Examination in London:—

Order of Merit	Names	Marks	Relative Marks under old Scale
1	Stammers, G. E. F.	3,018	3,159
2	Wanhill, C. F.	2,643	2,681
3	Hudleston, W. E.	2,345	2,606
4	Corkery, M. P.	2,254	2,402
5	Addams-Williams, L.	2,215	2,346
6	Rattray, M. M.	2,209	2,195
7	Gaine, F. J.	2,102	2,336
8	Power, J. H.	1,979	2,199
9	Phillips, R. E.	1,959	2,177
10	Bliss, E. W.	1,934	2,138
11	Marriott, W. E. P. V.	1,926	2,139
12	Clarke, T. H. M.	1,907	2,076
13	Berne, J. G.	1,804	2,005

THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

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EDITORIAL NOTE.

OWING to pressure on our space, we have been obliged to hold over several Original Communications and Reviews, as well as a Report on Medicine by DR. BEWLEY.

NOTICES TO CORRESPONDENTS.

In future no papers will be inserted as "Original Contributions" except on the distinct understanding that they are sent for publication to this Journal alone, and that only abstracts of them (with due acknowledgment) shall afterwards appeal elsewhere. This Rule does not apply to the "Transactions of the Royal Academy of Medicine in Ireland."

Authors of "Original Communications" will please consider themselves bound in honour to a strict observance of this understanding.

Authors of Communications are requested to write the prescriptions in their paper in full, and in English.

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AMERICAN Books and Journals often come to hand with such an amount of Charges on them, that we cannot release them. It is requested that all communications from the United States shall be forwarded to Mr. JOHN WILEY, *New York*; or Mr. HENRY C. LEA, *Philadelphia*, directed to us, to the care of Messrs. TRÜBNER and Co., *London*.

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THE DUBLIN JOURNAL
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OCTOBER 1, 1896.

PART I.

ORIGINAL COMMUNICATIONS.

◆

Art. XIII.—*Observations on the Radical Cure of Inguinal Hernia.*[a] By Francis T. Heuston, M.D., F.R.C.S.I.; Senior Surgeon to the Adelaide Hospital; Consulting Surgeon to the Coombe Hospital, the Cripples' Home, Bray, and to the Children's Home, Delgany.

During the past few years so many methods have been introduced for the radical cure of inguinal hernia, that the present seems to me a proper time to bring the subject forward for discussion, with the hope of coming to a definite opinion as to which method is likely to give the most satisfactory results to the surgeon and the patient. It is so well understood that this affection is due to an abnormal condition of the internal abdominal ring, and of the structures entering into the formation of the posterior wall of the inguinal canal, that I would wish to say a few words as to the anatomy of this region. As to the internal abdominal ring, it is most important to remember that it is rendered the weakest position by the coalescence of the structures forming the cord, and the prolongation on those structures of the fascia transversalis as the infundibuliform fascia. The posterior wall of the inguinal canal is naturally divided by the deep epigastric artery and its venæ comites, by far the most important in relation to hernia being that portion external to the vessels which is formed by the peritoneum, sub-peritoneal fascia, fascia transversalis, the reflected fibres from the internal oblique and transversalis muscles to Poupart's ligament, and deep crural arch, "Cooper's fibres," with occasionally some fibres of the transversalis muscle close to the ring, "Guthrie's fibres;" this constituting the weakest portion of the posterior wall of the canal is usually implicated in oblique hernia, and liable to be the seat of recurrence after operation. Of that portion of the canal internal to the epigastric vessels, we need consider only that situated between those vessels and the outer border of the rectus muscle, corresponding to Hesselbach's triangle, and the usual position of direct herniæ. Here we find the following structures:—Peritoneum, sub-peritoneal fascia, fascia transversalis, conjoined tendon of the internal oblique and transversalis muscles, the inner and strongest portion of Cooper's fibres, and the outer fibres of Colles's triangular ligament, which render the canal in this position much stronger than that portion external to the vessels. Of the structures forming the posterior wall of the canal, by far the most important is the fascia transversalis, as can readily be demonstrated on dissecting this region, when, if the structures forming the abdominal wall superficial to it be removed, there will be no tendency to protrusion, even if the internal pressure be great; but when the fascia is removed, slight pressure is sufficient to cause protrusion; when a hernia occurs there is not only a weakening of this fascia at the point of exit, but from the result of its pressure there is a general weakness or sagging of the fascia in the inguinal region. I, therefore, consider that in any operation aiming at radical cure, it is not alone necessary to close the opening or prolongation of the fascia, where the hernia has found its way out, but also to strengthen and support the weakened fascia in the immediate neighbourhood, it being my belief that the frequency of recurrence noticed after some of the recent operations is due in a great extent to neglect of this point. So many operations have been recently advocated, that it would serve no good purpose to mention them in detail. I will, however, shortly describe a few of those in most general favour:—

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[a] Read before the Section of Surgery of the Royal Academy of Medicine in Ireland, Friday, March 20, 1896. [For discussion on this paper, see p. 263.]

Bassini—Opens anterior wall of canal to full extent, separates sac from cord, ligatures neck of sac, removes sac if it be small and hernia incomplete, but allows it to remain if it be large; sutures conjoint tendon to Poupart's ligament beneath the cord, anterior wall of canal united, cord remaining in canal.

Kocher.—Separates sac from cord, passes sac through opening, in aponeurosis of external oblique corresponding to exit from abdominal cavity, twists sac,[a] and fastens it to external oblique in direction of inguinal canal.

Halsted.—External oblique, internal oblique, and transversalis muscles cut from external ring two centimetres above internal ring, sac separated from cord and removed, veins of cord excised, fascia transversalis and muscles sutured, cord removed from canal and fixed to superficial fascia of inguinal region.

Mitchell Banks.—Sac separated from cord, neck ligatured as high as possible, sac removed, canal sutured by silver wire.

Ball.—Sac separated from cord, neck of sac twisted and ligatured, sac removed and canal sutured.

MacEwen—Sac separated, puckered, and retained in canal by suture, canal sutured.

It will be seen that those operations can be divided into—1st. Where the inguinal canal is freely opened; 2nd. Where the inguinal canal is not opened. Taking statistics, we find that the tendency to recurrence after the first is much less than after the second, but I question if the results will be so favourable after a lapse of years, as time is such a potent factor in causing the absorption of cicatricial tissue. There can, however, be no doubt but that operations which give a full and clear view of the floor of the inguinal canal, enable the operator to see which of the structures in a given case require most attention.

I will now describe an operation which I have performed on thirty-two occasions, the patients varying in age between eighteen months and fifty-three years, hospital and private. All of the patients recovered, and as far as I have been able to ascertain there has been no recurrence of the hernia, although the cases were not in any way selected ones, some being of many years standing and of very severe type. The skin in the inguinal region is drawn downwards, and an incision of about three inches in length is made over the inguinal canal, the inner extremity of the incision corresponding to the crest of the pubes; the aponeurosis of the external oblique and the external abdominal ring are thus exposed. The inter-columnar fascia being opened, the sac is found and separated from the cord. Should the hernia prove to be a congenital one the sac is cut across above the testicle, and the lower portion sutured to form a tunica vaginalis; the sac is now separated from the cord in its entire extent; it is thus saved from injury in the subsequent steps of the operation; the sac is twisted sufficiently to render its neck a solid cord, which is transfixed at its exit from the external abdominal ring by a needle armed with strong gut, which is then tied by a Staffordshire knot. A Woods hernia needle is then passed through the aponeurosis of the external oblique, close above Poupart's ligament, and at a point corresponding to the exit of the twisted sac from the abdominal cavity; the surgeon's finger in the inguinal canal determines the proper place, also the depth to which the needle should be passed, and protects the cord; the needle is now passed through the twisted neck of the sac, which should be drawn down as well as possible, as the higher the sac is pierced the better. If the curved needle be now lateralised, its point, guided by the finger in the canal, can readily be protruded through the external ring and armed with a strong catgut suture; the needle is now withdrawn. The surgeon's finger is again passed into the canal, and the needle is again passed through the abdominal wall, about half an inch above, and external to, the exit of the twisted neck of the sac from the abdominal cavity; it should be passed sufficiently deep to include the internal oblique and transversalis muscles with the transversalis fascia, and having reached the canal is guided by the finger through the external ring. It is now armed by that end of the suture protruding from the ring and withdrawn. A second suture is passed in a similar manner through the walls of the canal about midway between the former and the external ring, it again piercing the twisted sac and deep abdominal muscles and fascia on a lower plane than the former. The ends of the ligature which was originally applied round the sac are now passed respectively through the superior and inferior pillars of the external abdominal ring. The deepest suture is now tied, drawing the sac upwards and outwards, and at the same time approximating the deep abdominal muscles and fascia to Poupart's ligament and twisted sac; the second suture is now tied approximating the conjoint tendon, fascia transversalis, and sac to Poupart's ligament, in the middle third of the canal, the effect being that the posterior wall of the canal is closed throughout, by the approximation of the superior and inferior walls, assisted by the twisted neck of the sac, which thus hinders any tendency to protrusion. It will be seen that both the sutures pass superficial to the cord, which is retained in a position somewhat below that which it normally occupies. The operation is now completed by removing the sac beyond the third ligature, which on being tied closes the upper part of the external ring and fixes the cut end of the sac against its internal aspect. A drainage tube is inserted into the canal, the superficial fascia united by a buried suture of catgut, and the skin by silk-worm sutures. I usually remove the drainage tube on the third day, the silk-worm sutures about the fifth or sixth, and allow the patient out of bed in about three weeks, a spica bandage being applied for another week.

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[a] Does not twist sac in recent operations.

ART. XIV.—*A New Method for Localising Brain Lesions.*

By ROBERT H. COX, L.R.C.P. & S., Pakhoi, China.

THAT there is need for a more perfect method of locating the important areas of the cerebral cortex on the overlying surface of the scalp will, I think, be admitted by you all, seeing that most, if not all, the methods generally employed are either limited in their scope or complicated in their application, while many give rise to error by the use of a standard measure—the inch or the centimetre—for varying surfaces.

The method which I am about to describe will, I think,

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[a] Read before the Surgical Section of the Royal Academy of Medicine in Ireland, Friday, Feb. 21, 1896. [For discussion on this paper, see p. 161.]

be found devoid of these objections. In the use of this method two things are necessary, viz.:—

1. An instrument which I have invented and called (for want of a better name) a cerebro-graphometer; and—

2. A diagrammatic map of a hemisphere of the brain, prepared from readings made by the use of the same instrument on the cadaver and casts of the brain *in situ*. This map may, however, be substituted or augmented by a list of indices made in the same way.

The instrument consists entirely of the mechanical device known technically as "lazy-tongs" formed into a circle with two accessory loops. The circle, or base, contains 28 fenestræ, and has attached to it externally, at four equi-distant parts, the two accessory loops by their end rivets (excepting one, where the attachment is at the rivet third from the end) in such a way that the loops arch over the circle at right angles to each other, while at the same time they are capable of a hinge-like movement. One loop bears, on its central rivets, the numerals, beginning at each end with 1 and ending in the middle with 10; while the other loop has the letters A to V in consecutive order from before backwards, the rivet marked T being that connecting the loop with the circle at this end.

The map is made on a gnomonic projection, with the radii or longitudinal lines marked by letters and the semicircles or lines of latitude by numerals. The tracings in this particular case were taken from one of Professor Cunningham's beautiful casts. (Fig. 12, Cunningham's Memoir, published by the Royal Irish Academy.) The list of indices here shown is also from the same source.

To use the instrument it is necessary to extend it in all parts and apply it to the human head, with the rivet forming the junction of the lettered loop with the circle (below that marked A) on the glabella, and the rivet marked V (at the extreme end of the same loop) to the occipital protuberance. when the loop between these two points should be pressed down to the scalp in the middle line, while the circle is also closed on the skull on such a plane that the central rivet, marked 10, of the numbered loop shall lie on the middle line as shown by the lettered loop. The instrument is thus fixed to the skull by the circular band and the lettered loop, while the numbered loop is capable of movement backwards and forwards with a hinge-like motion, during which each numbered rivet describes a semicircle of latitude, and the portion of the same loop, from one of the fixed rivets to the numeral 10, will, as it extends to each letter, give the radii of longitude. With the instrument thus fixed in position, to find any given point—say, Broca's lobe—it is only necessary to consult either the map or the list of indices for the bearings—there given as "$\frac{C}{4}$ left side"—when, by moving the 10 on the numbered loop forward to C and pressing the loop down on the scalp, the numeral 4 will lie over the part. Rolando's fissure may be found in a similar way by locating each end and joining the two points by a straight line.

Localising by this method may be summed up under two heads—(*a*) Application of the apparatus, and (*b*) Location of part sought for.

(*a*) *Application of the apparatus.*—Extend the instrument and apply the end of the lettered loop marked V to the occipital protuberance and the other end to the glabella, then press down the loop to the scalp in the middle line, and close the circle round the head so that the 10 on the numbered loop will lie on the lettered loop.

(*b*) *Location of part sought for.*—Consult either the map or list of indices for the bearings, place the numeral 10 on the letter of longitude and press the numbered loop down, when the numeral of latitude will rest over the part sought for.

Having thus shown the simplicity of the method, for the carrying out of which no recourse need be had to the science of mathematics in any of its branches, and the almost automatic action of the cerebro-graphometer, I would now ask your attention while I try to explain its accuracy.

As may be seen at a glance, the instrument is equally applicable to all sized heads, and forms its own unit of measurement for each, thus eliminating the errors due to the use of a standard measure for a varying surface.

The two fixed points which are taken are easily found, and are those which have proved most reliable—the glabella and the occipital protuberance—and these place the circular band, or base upon which the accessory loops hinge, on that plane of which Professor Fraser has written in his "Guide to Operations on the Brain."—"and, finally, the key-note of all the remarks which are to follow is this:—That for normal heads after birth the position of any structure of importance in their cavities varies proportionally with the variations of the circumference as given by the circumferential tapes of the respective heads." If this be true, or even approximately so, it points to this plane as the most likely one to afford the minimum amount of variation in the position of the cranial contents. Of course the markings of no two brains are the same, therefore no mechanical method can give perfect accuracy, but I hold that my method is the nearest approach yet to that goal, which, indeed, seemed to be reached with reference to Rolando's fissure in the only cases I had an opportunity of testing it.

That some of the bearings given may not prove to be the average, when tested by others, I am prepared to find, seeing that the material at my disposal has been very limited, but the investigation of those whose opportunities are greater would soon remedy this.

In conclusion I would add, that the cerebro-graphometer is simple, compact, durable, and capable of being rendered aseptic by boiling.

Messrs. Arnold & Sons are the manufacturers.

ART. XV.—*Tuberculosis: its Prevention and Cure.*[a] By JOHN WILLIAM MOORE, M.D., Univ. Dubl.; F.R.C.P.I.; Diplomate in State Medicine and Ex-Scholar, Trin. Coll., Dubl.; Senior Physician to the Meath Hospital; Professor of Practice of Medicine in the Royal College of Surgeons in Ireland.

I. THE BACILLARY ORIGIN OF TUBERCULOSIS.

WE may, I think, accept certain facts relating to tuberculosis as proved, and therefore shut out from the field of discussion. For example: the essential unity of the process which we call

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[a] Read before the Section of Medicine, British Medical Association, Carlisle, July 31, 1896.

"Tuberculosis" must be admitted. Once the bacillary origin of tubercle is established, the morbid process must be regarded as identical, whether its battlefield is the lungs, the pleura,[a] the membranes of the brain, the liver, spleen and kidneys, the intestines, the mesenteric and other lymphatic glands, the joints, or the skin. The life-history, morphological characters and pathogenic bearings of the *Bacillus tuberculosis* of Koch have been so thoroughly, so minutely studied as to leave no room for doubt as to its causal relationship to tuberculosis of every kind and in every part of the body. No need, therefore, for us to discuss these and many kindred points.

We may pause to ask, why it is that the bacteriology of this disease has claimed and secured so close an investigation. How was it, also, that the too hasty announcement, six years ago, of the discovery by Koch of a cure for consumption aroused, both within and without the ranks of the medical profession, a wave of enthusiasm which was doomed swiftly to spend itself in a reaction almost of despair?

The answer is plain: Tuberculosis haunts all lands,[b] infects all races of men,[c] besides many of the animals on which man depends for food. It has played—it still plays—a strangely sad and tragic part in the great drama of human life. Its victims are too often the young, the lovable, the gifted, and the beautiful. Of its ravages it may well be said:—

"There is no flock, however watched and tended,
But one dead lamb is there!
There is no fireside, howsoe'er defended,
But has one vacant chair!

"The air is full of farewells to the dying,
And mourning for the dead;
The heart of Rachel, for her children crying,
Will not be comforted!"

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[a] Prof. Eichhorst. Correspondenz-Blatt. für schweizer Aerzte. July, 1895.

[b] "Pulmonary Consumption extends over every part of the habitable globe; it may be designated an ubiquitous disease in the strictest meaning of the term."—August Hirsch: Handbook of Geographical and Historical Pathology. New Syd. Soc. Trans. 1886. Vol. III., p. 170.

[c] "No *race* or *nationality* enjoys a decided immunity from consumption, but in respect to the frequency of its incidence the negro race takes first place."—Hirsch, loc. cit., p. 225.

Another point which has been removed from the pale of discussion by the discovery of the *Bacillus tuberculosis* has reference to the influence of *heredity* upon the transmission of the disease. "That phthisis propagates itself," writes Hirsch,[a] "in many families from generation to generation is so much a matter of daily experience, that the severest critic can hardly venture to deny a hereditary element in the case." He adds: "As a general rule, we shall hardly err if we estimate the number of hereditary cases of consumption at not less than 33·3 to 40 per cent. of the total." These statements may be accepted at the present day, but with an important qualification. "Heredity in the narrower sense"—to borrow Hirsch's words—which "consists in the transmission of a specific poison, something like that of syphilis," can no longer be regarded as an ætiological factor in the everyday forms of tuberculosis. The influence of heredity in reality makes itself felt through "a congenital disposition towards the disease, a disposition that has to be looked for, naturally, in the organisation of the respiratory system" (Hirsch). The great German epidemiologist is, no doubt, speaking of pulmonary consumption, but surely these views are equally applicable to the other manifestations of bacillary tubercle.

"Susceptibility," says Dr. James B. Russell, in his splendidly-written and most able Report on the Prevention of Tuberculosis,[b] "may be constitutional, and may be so great and so marked as to amount to a predisposition. This it is which passes by inheritance, and, until the discovery of the bacillus, was regarded as hereditary tuberculosis. It is not the disease which is inherited. It is the predisposition—the feeble constitution, the low vitality, the *tout ensemble* of conditions, some of which are recondite and imperfectly understood, some obvious and capable of specification and comprehension. The outcome is a soil so congenial as to accept a delicate infection from which the majority of mankind emerges scatheless; a soil which sustains and propagates the bacillus so vigorously that to popular observation the disease seems to be inherited. In such a person a blow or a sprain, a cold or sore-throat, determines the local incidence."

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[a] Loc. cit., page 228.

[b] Glasgow: Robert Anderson. 1896. Page 18.

Again, the question of the transmission of tuberculosis by infection may be looked upon as definitely settled, although, as we shall see later on, the exact methods and paths of infection may still be open to discussion. In the second of two scholarly lectures on tuberculosis delivered before the Royal College of Physicians of Ireland, my friend and former colleague, Dr. Arthur Wynne Foot, recalls the fact that in the works of Aristotle is to be found the earliest notice of the opinion that phthisis is infectious.[a] Dr. Foot tells us also that Morgagni believed in the direct contagiousness of the disease to such an extent as scarcely ever to have made an autopsy of a phthisical subject—in one of his letters he writes:—"*Ego vero illa (cadavera phthisicorum) fugi de industria adolescens, et fugio vel senex.*" In 1799 Laennec, while examining some tuberculous vertebræ, slightly grazed the forefinger of his left hand by a stroke of the saw. The scratch was so slight that he paid no attention to it; but, on the following day it was slightly inflamed, and a small roundish tumour, apparently confined to the skin, formed on it almost without pain. At the end of eight days the epidermis cracked, displaying the small tumour within, yellowish, firm and in every respect like a crude, yellow tubercle. Laennec cauterised it with the deliquescent chloride of antimony. He felt no pain, and in a few minutes after the fluid had permeated the tumour, he detached it by a gentle pressure. The part soon healed, and twenty years afterwards he had found no further effects from the accident. Apparently with his personal experience in mind, Laennec,[b] in his "Traité de l'Auscultation Médiate," expresses the opinion that "no consumptive succumbs to a first attack of the tuberculous affection." In 1822 he was obliged to give up his practice owing to pulmonary phthisis, of which he died in 1826.[c]

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[a] Copland. Dict. Med. Vol. III., page 1,166, and Dublin Journ. of Med. Science, Vol. LXIV., August, 1877, page 162.

[b] Quoted by Dr. Arthur Ransome (The Treatment of Phthisis. London: Smith, Elder & Co. 1896. Page 41).

[c] A. W. Foot. Loc. cit., page 106.

But enough of historic retrospect. We now hold that tuberculosis is undoubtedly an infective disease; that the introduction of the virus—the *Bacillus tuberculosis*—is the one exciting cause of the disease. "The only cause of tuberculosis," writes Dr. James B. Russell,[a] "is the tubercle-bacillus. Without the bacillus there can be no tuberculous disease. Therefore, to prevent tuberculosis we must stamp out the bacillus." But it is equally true that there are many predisposing causes, which arrange themselves under the two great headings: *congenital* and *acquired*. As examples of the former, we may instance inherited delicacy of the lymphatic glands, vulnerability of the lungs, feebleness of defence on the part of the cells of the body. The presence of these conditions constitutes the "tubercular diathesis." Among the latter we may place in one group defective sanitary surroundings, such as poverty, bad and deficient food, absence of sunlight, want of ventilation and overcrowding, defective subsoil drainage, unwholesome trades, and dusty occupations. In a second group debilitating diseases, such as the various fevers (particularly enteric fever, measles, and scarlatina), influenza, whooping-cough, bronchitis, pneumonia, pleurisy, diarrhœa, diabetes, kidney disease, and so on, hold the foremost place. In women again, frequent pregnancies and prolonged lactation are notable predisponents. Lastly, we may say with Dr. Ransome,[b] that the most common causes of bodily predisposition are "to be found under the third head—namely, the local lesions and weaknesses that render it possible for the bacillus to effect a lodgment within the tissues."

II.—EARLY SIGNS OF CONSUMPTION.

The relative value—diagnostic and prognostic—of certain signs and symptoms which herald the onset of pulmonary consumption would be a suitable topic for discussion. I can do little more than name some of them.

The so-called "tuberculous red line" along the gums may mean much or little. Its absence encourages; its presence, on the other hand, may be due to other causes than tuberculosis. I have seen it in the neighbourhood of carious teeth, or where "tartar" incrusts the crown of a tooth. Its diagnostic value is thus qualified.

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[a] Loc. cit. Page 7.
[b] Loc. cit. Page 18.

Clubbed finger-tips are common to phthisis with many other wasting diseases or conditions which interfere with nutrition, such as valvular or other heart affections.

Morning sickness and want of appetite for breakfast are common forerunners of consumption. To the same category belong distaste for fatty foods and capricious appetite.

Myotatic irritability of the pectoral muscles and of the platysma myoides (*myoïdema*) is a valuable sign. So also is tenderness on pressure over an apex of a lung which is the seat of commencing tuberculous deposition.

Interrupted inspiration (respiration saccadée; entre coupé, jerking, or cogwheel, inspiration) is a sign of doubtful value. It is so often present in nervous youths or in nervous and chlorotic girls that its diagnostic importance is largely discounted.

Among the earliest physical signs of phthisis we should include lessened movement of the chest wall (expansion), an abnormally clear percussion note, deficient vesicular breathing, relative or absolute intensity of the heart-sounds over the affected apex, and relative or absolute intensity of the pulmonary second sound.

Maragliano, of Genoa, has in a recent Address discussed the question of *latent* and *larval tuberculosis*.[a] When tuberculosis is present without subjective or objective symptoms, the latency may—(1) persist indefinitely, (2) be limited in duration, (3) be intermitted in occurrence. The transition from latent to manifest tuberculosis may be viewed as an evidence of increased intensity of infection, or of diminished bodily resistance, or perhaps a combination of both.

Larval tuberculosis is that in which typical manifestations of infiltration are wanting, although other symptoms of the disease are present. This type of the disease may appear in one of two forms: (1) dystrophic—characterised by progressive disturbance of nutrition without fever, (2) typhoid—from the beginning attended by fever—at first intermittent, later remittent or subcontinuous in type.

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[a] Berliner klinische Wochenschrift. 1896. Nos. 19 and 20. Medical Record, New York. July 11, 1896. Page 53.

III.—THE DAMAGE WHICH TUBERCULOSIS DOES.

It would not be easy to exaggerate the damage to health and life which tuberculosis inflicts. Through the kindness and co-operation of the Registrars-General of the three divisions of the United Kingdom, I am enabled to lay before the Section a series of tables, which bear eloquent testimony to the destructiveness of tubercle. The first of these tables has reference to England and Wales at large. The second is for Ireland at large. The third is for Scotland at large. In the fourth table, the facts relating to the urban populations of Dublin and Belfast are set out.

The tables are strictly comparable with each other. They refer to the fourteen years, 1881–1894, inclusive. From these tables, it is easy to see that tuberculosis is more destructive to life in Ireland than it is in Scotland, and in Scotland than in England and Wales. Of all the deaths registered in the fourteen years, 1881–1894, tuberculosis caused 12·3 per cent. in England and Wales, 13·8 per cent. in Scotland, and 14·9 per cent. in Ireland. It will further be observed that a remarkable decline in the percentage death-toll from tuberculosis is taking place in England and Wales, as also in Scotland, whereas there is little change in Ireland.

The malign influence of town-life on the fatality from tuberculosis is clearly brought out by a comparison of the statistics relating to Dublin and Belfast with those which refer to Ireland at large.

In 1887, Dr. T. W. Grimshaw, Registrar-General for Ireland, and now President of the Royal College of Physicians of Ireland, read before the State Medicine Section of the Royal Academy of Medicine a paper on the prevalence and Distribution of Phthisis and other Diseases of the Respiratory Organs in Ireland.[a] He showed that in the decennial period, 1871–1880, phthisis or pulmonary consumption, considered as a single disease, was the most potent cause of death in Ireland, constituting, as it did, the cause of *more than one-tenth* of all the deaths registered during the decade. The exact figures are: deaths from phthisis, 103,528; from all causes, 966,745. Taking the average of the ten years, 1871–

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[a] Trans. Acad. Med. in Ireland. Vol. V. 1887. Page 314.

1880, the death-rate of the population of Ireland from phthisis was at the rate of 19·6 per 10,000 per annum. In Irish town districts, with a population of 10,000 and upwards, the rate rose to 34·7. The annual death-rate per 10,000 from pulmonary consumption ranged from 4·8 in the storm-swept wilds of Belmullet Union, Co. Mayo, to 33·4 in the North Dublin Union, and to 38·2 in Belfast with its flax-spinning mills and water-logged subsoil. Across a map of Ireland illustrating his paper, Dr. Grimshaw drew a line from Londonderry to Skibbereen in the County Cork, dividing the whole island into a western and an eastern division. The western represents what may be called the poverty-stricken portion of the country; the eastern is more well-to-do, more populous, and represents a higher grade of civilisation, with the large towns and urban population which are incidental to it. Pulmonary consumption prevails in the eastern, but falls below the average in the western, districts.

What Dr. Grimshaw did for Ireland in the paper just quoted, Mr. Alfred Haviland had previously done for England and Wales in 1875, when he first published his work on "The Geographical Distribution of Heart Disease, Cancer, and Phthisis." The second edition was published in 1892 under the title "The Geographical Distribution of Disease in Great Britain."

In order to illustrate this part of my subject in a graphic way, I have had copies made of three very interesting diagrams appended to an important Report on the Death-rate of Brussels during the twenty-four years, 1867–1890 inclusive.[a] This Report was drawn up by Dr. E. Janssens, Inspector-in-Chief of the Department of Hygiene, Member of the Royal Academy of Medicine of Belgium, of the Central and Statistical Commission, &c., and submitted by him to the Royal Academy of Medicine in 1895. As Horace says:

> "Segnius irritant animos demissa per aurem,
> Quam quæ sunt oculis subjecta fidelibus."
> —*De Arte poeticâ*, 180, 181.

The city of Brussels has long enjoyed an unenviable notoriety for the prevalence of tuberculous affections. We are, therefore, not surprised to find that in the twenty-four years ending with 1890 nearly one-fourth (23·1 per cent.) of all the deaths were brought about by tuberculosis, 15·7 per cent. being referred to pulmonary consumption, 4·6 to tubercular meningitis, 1·9 to tabes mesenterica, and 0·9 per cent. to other forms of tuberculosis. It will be observed that consumption has been, in Brussels, much more destructive to life than all the ordinary zymotic diseases put together (8·7 per cent.), or than diarrhœa and enteritis (12·5 per cent.), or than bronchitis and pneumonia (13·6 per cent. of the total mortality). So far as zymotics are concerned, the same fact is shown in a very striking way in the second diagram, which contrasts the mean annual deaths caused by tuberculosis with those due to a number of specified infectious epidemic diseases.

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[a] Statistique nosologique des Décès constatés dans la Population bruxelloise pendant les vingt-quatre Années, 1867-1890, etc. Bruxelles: F. Hayez. 1895.

The third diagram gives the death-rates per 10,000 of the inhabitants of Brussels from tuberculosis and from the chief zymotic diseases during the three last decennial periods. It will be seen that zymotics are rapidly becoming less fatal. Tuberculosis itself shows a diminishing mortality, but the improvement is much less marked and much more gradual than in the case of the epidemic diseases.

Such, then, is the foe against whose onslaught upon health and life we have to call up our several lines of defence. But, first, we must study the enemy's attack—the modes of infection which the *Bacillus tuberculosis* adopts.

IV. MODES OF INFECTION.

Dr. Arthur Ransome, in his recently published work on "The Treatment of Phthisis," has so clearly described the routes by which the body is invaded by tuberculosis that I cannot do better than transcribe his words:—"It was ascertained," he says,[a] "even before the discovery of the bacillus, that the virus of tubercle might be introduced into the body at almost any point, but with various prospects of spreading generally through the system. Thus, (*a*) when inoculated into the skin, either through a purposely made abrasion, or through a sore, it would usually be arrested at the first lymphatic gland; and it would then often be discharged

[a] Loc. cit., page 14.

from the body by suppuration. (*b*) It has been shown to be possible for it to enter by the genital tract, and thus we may have either infection of the mother, or congenital disease of the offspring. But both these accidents are probably of very rare occurrence. (*c*) The organism may undoubtedly enter by the alimentary canal, and there can be little doubt that this is one of the commonest sources of abdominal phthisis. Lastly, (*d*) the virus may be breathed into the air passages in the form of tuberculous dust, and, as Cohnheim pointed out long ago,[a] no organ of the body is attacked by tubercle with the same frequency and intensity as the lungs. In most cases this fact can only be accounted for by a primary and immediate attack by the virus upon the respiratory tract, though the lung disease has sometimes been known to arise from extra-pulmonary infection.

"As a general rule, when a sufficient number of the organisms has been lodged within the outworks of the animal body—*i.e.*, when the dosage has been sufficient—the disease spreads infectively along the track of the lymphatic system. But before these organisms can effect a complete lodgment within any organ, they have to run the gauntlet past many opposing forces. . . . If, owing to the number of organisms, or to the weakness of the defending leucocytes, the bacilli are able to rush the first line of defence, they are carried to the nearest lymphatic gland, and there they are again subjected to the destructive powers of the system . . . When organic disease becomes finally implanted in the body, we may be sure that there has either been an overwhelming mass of invading particles, or that the tissues have been weakened by previous injury."

At the nineteenth annual meeting of the American Dermatological Association, held at Montreal in September, 1895, Drs. J. C. White, Hartzell, and Graham reported cases of local infection by tubercle. Dr. Hartzell's case, in particular, is worthy of mention. The child's father had recently died of consumption (three months previously). The lesions on the child were: one at the metacarpal joint of the thumb, another upon the knee, and another upon the opposite leg—in fact, in just such situations as a child exposed to tubercular sputum could become infected when crawling over the floor.[a]

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[a] Die Tuberkulose vom Standpunkt der Infectionslehre, p. 20.

With Dr. Russell,[b] we may conclude that "Tuberculosis in man is therefore caused by infection, either (1) through the excretions or discharges from infected animals, including man himself, or (2) the milk of infected animals, including his own species, or (3) the flesh of infected animals."

Statistics go to show that it is pulmonary consumption which carries off the greater number of the victims of tubercular infection. Of all the deaths due to tuberculosis, nearly three-fourths are caused by the pulmonary form. It follows that the virus of tubercle is in large measure derived from phthisical patients, and that, if we are to control tuberculosis, we must destroy—not indeed the victims of phthisis—but the virus as it comes from them. It is well known that the poison of consumption does not come off in the breath,[c] or in the emanations of the skin, like the poison of typhus. It is in the expectoration of the phthisical that the bacillus swarms. Each sputum carries within it boundless possibilities of mischief. In a word, tuberculosis is infectious indeed, but in a limited and special sense. Even in the sputum the bacilli are imprisoned and powerless for evil, so long as it remains *moist.* As soon, however, as it dries it is broken up into a microscopic dust which reeks with a deadly poison—the spores and bacilli of tubercle. These are diffused through the atmosphere, and, if not destroyed by sunlight and fresh air, are breathed in by susceptible individuals, who in this way become infected. Nor is inhalation the only pathway of infection. The bacillus-laden dust may settle on articles of food, and on the surface of milk or water, and be *swallowed.* Unless taught to do otherwise, also, the consumptive is very likely to swallow his own sputum, and so to reinfect himself.

"The other sources," says Dr. Russell,[d] "from which man may derive the infecting bacillus are the milk and the flesh of diseased animals. . . . The process of cooking tends to diminish the risk, but in the case of milk there is no such safeguard interposed, owing to the habit of the country to consume it raw. The primary seat of tuberculosis in children is so frequently in the bowels and their related glands, and milk forms so large and essential an element in the food of children, that we cannot avoid the conclusion that it is to them a frequent source of infection." Dr. German Sims Woodhead, F.R.S., Edin., Director of the Research Laboratories of the Conjoint Examining Board for England of the Royal Colleges of Physicians and Surgeons, gave evidence altogether to the same effect before the recent Royal Commission appointed "to inquire and report what is the effect, if any, of food derived from tuberculous animals on human health; and, if prejudicial, what are the circumstances and conditions with regard to the tuberculosis in the animal which produce that effect upon man." From the Report of that Commission we learn that when occasion has arisen to slaughter all the milch cows in town dairies under the Contagious Diseases (Animals) Act, 40 per cent. have been found to be tuberculous. Dr. Russell tells us that in the *Veterinarian* for August, 1895, it is stated that in a herd of 95 dairy cows tested with tuberculin, 71 were found to be tuberculous. They were sent to market and sold! Surely the recital of such facts testifies to the existence of a very real and pressing danger of infection with tuberculosis by means of food. Because of a like danger to sucklings, "women affected with tuberculosis must not suckle infants."[a]

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[a] Journal of Cutaneous and Genito-Urinary Diseases. Nov., 1895. P. 475.

[b] Loc. cit. Page 12.

[c] Georg Cornet. "Die Verbreitung der Tuberkelbacillen ausserhalb des Korpers." Zeitschrift für Hygiene. Band 5. 1888.

[d] Loc. cit. Page 15.

V. THE PREVENTION OF TUBERCULOSIS.

The foregoing considerations suggest how much may be done to *prevent* tuberculosis. In a paper on "The Dwelling-house in Relation to Tuberculous Consumption," Dr. Thorne Thorne, C.B., gives as follow the conditions of a dwelling-house tending to the prevention of this disease:—

"1. A soil which is dry (*a.*) naturally, or (*b.*) freed by artificial means from the injurious influence of dampness, and of the oscillations of the underlying subsoil water.

"2. A dwelling-house so constructed as to be protected against dampness of site, foundations, and walls.

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[a] Practical Instructions for the Prevention of Tuberculosis, issued by the Central Council of Health of Belgium, May 30th, 1895.

"3. Such open space on at least two opposite sides of the dwelling-house as shall secure ample movement of air about it, together with its free exposure to the influence of sunlight.

"4. Such construction of the dwellinghouse as will secure for its habitable rooms, and throughout its interior, free movement of air by day and by night, and the free access of daylight."

Dr. Russell puts it well when he says—"Sunlight is the only disinfectant which sustains the man while it kills the microbe;" and again, "The lungs are like every other organ, their health is promoted by free and full use. Deep inhalation of pure air—especially the open air, the air which is moving freely in the great currents we call winds, which is clarified by sunshine—gives vigour to the lungs, and supplies the heart with well-oxygenated blood to be sent throughout the body, increasing the insusceptibility of every tissue."[a]

Incidentally, also, we must agree with the same writer that "the improvement of the hygiene of the domestic animals is a precaution against consumption in man."

The character of the meat and milk supply of the people should be subjected to the strictest investigation by officers under the control of the sanitary authorities. It was stated in evidence before the Royal Commission on Tuberculosis by Dr. Sims Woodhead that in Copenhagen a large voluntary association has been working for the past 10 or 12 years with the express object of securing to the inhabitants of that city an abundant supply of milk and meat which should be entirely free from the taint of tuberculosis. This association is in direct communication with farmers, who by its rules have a distinct interest in supplying non-tuberculous milk. A system of inspection by properly qualified veterinary surgeons is constantly carried out, and every cow which is milked for the association is examined fortnightly. The farmer is paid for the full daily yield of milk in the case of each cow removed from the milking herd as suspicious. If at last the suspected animal is found to be really tuberculous, it is killed and the farmer has to bear the loss.

[a] Loc. cit. Pages 51 and 52.

It has been already shown that the expectoration of the phthisical is the most general and most dangerous carrier of the infection. How are we to arrange for its harmless disposal? First, consumptives should be warned of the danger of recklessly spitting about rooms, or on the ground, or into pocket-handkerchiefs. Spittoons or cuspidors, containing a little water, should, if possible, be used, previously charged with a disinfectant such as a 5 to 15 per cent. solution of carbolic acid. The best form is, perhaps, the Dettweiler spit-bottle, used at the great Consumption Hospital at Falkenstein in the Taunus. A paper bag, or a clean rag, or a piece of calico, any of which may be thrown into the fire immediately after use, is an excellent makeshift. In winter the best plan of all is for the patient to spit directly into the fire. Should pocket-handkerchiefs be employed, they should at once be put to steep in a weak carbolic solution and then boiled before washing. By any, or by all, means—*Delenda sunt Sputa!*

But the poisonous expectoration may have escaped destruction and been converted into dust, which settles on ceilings, walls, and floors; on furniture, curtains, carpets—in fact, everywhere in the bedchamber or dwelling-room of the consumptive.[a] What then must be done? "All unnecessary trappings should be removed. The pernicious process happily described as 'dusting'" (Russell) must be avoided. Bed-clothes should be exposed to the sunshine, or daylight, in the open air. The room should be cleaned with a damp cloth or duster at frequent intervals. Its windows should be as widely opened as the weather will permit, and all available sunshine should be allowed to flood its innermost recesses. Once the patient has left the infected chamber for good, the carpets, curtains, and bed-coverings should be disinfected by exposure to superheated steam under high pressure; all woodwork should be carefully washed with carbolic soap and warm water; the floors and walls should be rubbed with fresh bread, and afterwards freely sponged with corrosive sublimate solution (in strength, 1-1000 or 1-2000), or a one per cent. solution of chlorinated lime, or a carbolic solution of one in forty (2½ per cent.).[a] Turning from the *causa causans* of tuberculosis to its likely victims, we must hold that those whose family history reveals a predisposition to consumption should lead an active, open-air life, healthy metabolism being encouraged by the daily exercise of every muscle in the body short of fatigue. The foolish, because unfounded, dread of "night-air," or, as we prefer to call it, fresh air by night, has done infinite damage and should be abandoned. It is at night, above all other times, that inhalation of fresh air is required. The body is at rest, and so the inspirations are neither so frequent nor so deep as in the daytime. Hence the need for purest air by night. Of course draughts are to be avoided, and in severe weather in winter a glowing cinder-fire in the grate exhausts the air-pressure in the bedroom sufficiently to induce an abundant supply of fresh air even with closed windows and door. Close attention should be paid to the dietary, which should include—besides milk—eggs, fish, butchers' meat, nourishing soups, and fresh fruits and vegetables in seasonal succession. Strict punctuality in meal-times is essential. As a rule, stimulants are not required, and should not be taken except under medical advice, and subject to frequent revision. "Change of air" is a desirable aid in the preventive treatment of tuberculosis, particularly in the case of town-dwellers. But the change should be to a well-built, well-sewered, well-ventilated house standing on high and dry ground, in the open country, or mountain slopes, or near, but not too near, the sea-shore.

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[a] Irwin H. Hance, of New York: A Study of the Infectiousness of the Dust in the Adirondack Cottage Sanitarium. The Canadian Practitioner. Jan., 1896. Page 19. Cornet. "Die Verbreitung der Tuberkelbacillen ausserhalb des Korpers." Zeitschrift für Hygiene. Band 5, 1888.

VI. THE HOSPITAL TREATMENT OF TUBERCULOSIS.

This is an anxious question, and one that is difficult of solution.

Theoretically, the air of an hospital ward, however clean and well-ventilated that ward may be, is unsuited for a consumptive. In it his surroundings are calculated to depress. The dietary may not coax his appetite. And then to look at the question from the point of view of the other patients, the presence of the consumptive may be no more than tolerated. He keeps them awake at night with his racking cough; he resents open windows, yet may pollute the air in the ward to an extreme degree. If his expectoration is not destroyed or disinfected, he may even infect his fellow-sufferers with his own disease.[a] He occupies month after month a bed which otherwise would accommodate many generations of patients labouring under less chronic and more curable maladies. Lastly, the hospital treatment of tuberculosis breaks down because of its utter inadequacy to cope with so universal and so tedious a disease. In a week every bed in every hospital in the United Kingdom might be filled with consumptives, and even then thousands upon thousands of cases would be left without hospital accommodation, so wide-spread is the plague of phthisis.

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[a] Delépine and Ransome. A Report on the Disinfection of Tubercle-infected Houses. Brit. Med. Journ. Feb. 16, 1895. Page 349.

The Hospital Treatment of Tuberculosis should resolve itself into providing of—

1. *Consumption Hospitals*, or *Sanatoria*, in which the disease could be treated in its earlier and more hopeful stages.
2. *Special Consumption Wards* in General Hospitals, into which tuberculosis, and that disease alone, should be received.
3. *Refuges* for those far advanced in, or dying of, consumption. The German name for such an institution is very expressive—"Friedensheim," or "Home of Peace."

1. In our own country, good examples of consumption hospitals are to be found at Brompton; at Ventnor, Isle of Wight (the Royal National Hospital for Consumption), Bournemouth (National Sanatorium for Consumption and Diseases of the Chest), Belfast (Hospital for Consumption and Diseases of the Chest); and at Newcastle, Co. Wicklow (the National Hospital for Consumption for Ireland). I have visited most of these institutions, and can speak of them in the highest terms of praise. But what a drop in the ocean are they, after all! And how inadequate to effect a *cure* is the longest time of residence allowed a consumptive patient!

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[a] Geo. Allan Heron. The Relation of Dust in Hospitals to Tuberculous Infection. Lancet, Jan. 6, 1894.

As Dr. Ransome tells us,[a] the "cure à l'air" was first systematised by Brehmer, the founder of the Sanatorium of Görbersdorf, in Silesia, at 550 mètres of altitude, containing 250 beds; and by Dettweiler, at Falkenstein, in the Taunus near Frankfort, at 500 mètres, with 150 beds. In 1895, there were twenty-five such establishments in Europe and North America devoted to the fresh air treatment of phthisis.[b] At Falkenstein, once the patient has been acclimatised, it is *de rigueur* that he must pass the entire twenty-four hours under the influence of fresh air. A graphic description of the system pursued at Falkenstein, which may be taken as the type of this kind of establishment, is given by Dr. Daremberg, *once* upon a time himself a consumptive, and quoted by Dr. Ransome.[c]

2. The providing of special wards in, or adjacent to, our general hospitals would meet to a certain extent some of the objections I have advanced to the treatment of consumption in hospitals. In such wards consumptives in a more advanced stage of the disease could be treated, the separate principle being carried out as far as possible, the ward in any case being planned to contain never more than 3 or 4 patients, and provision being made for inhalations of ozonised oxygen, as suggested and carried out by Dr. Ransome.

3. In Dublin there are two large institutions of a sadly pathetic nature—one is the Royal Hospital for Incurables; the other, Our Lady's Hospice for the Dying. The former stands on its own grounds, which are very extensive, in the Pembroke Township, a healthy suburb of Dublin. It was founded in 1740, but has been greatly enlarged within recent years. It contains 212 beds, many of which are occupied by cancer cases, and patients suffering under incurable visceral diseases (of the heart, liver, kidneys, &c.). There are also numerous cases of advanced or incurable tuberculosis.

Our Lady's Hospice for the Dying stands on extensive grounds at Harold's Cross, in the Rathmines Township, another large outlet of Dublin. This institution affords accommodation for 112 patients, and is designed only for those whose illness is likely to terminate fatally within a limited period. The bulk of the cases received into the wards are the victims of tuberculosis, and especially of consumption.

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[a] Loc. cit. Page 110.

[b] Dr. Knopf. Les Sanatoria. Paris: Carré. 1895.

[c] Loc. cit. Pages 111., et seq.

VII. THE CLIMATIC TREATMENT OF CONSUMPTION.

This topic naturally falls under the headings:—

1. Sea Voyages.
2. Maritime Health Resorts.
3. Mountain Sanatoria.
4. Dry, Sunny Climates.
5. Moist, Warm Climates.

In this paper I can do little more than touch the fringe of the subject, referring my audience to the many standard works upon it, particularly to Dr. J. A. Lindsay's "Climatic Treatment of Consumption." (London: Macmillan & Co. 1887.)

The Climatic Treatment of Consumption is necessarily expensive, and therefore it is only the few who are in a position to fully avail themselves of it.

It is equally obvious that in the earlier stages of the disease alone can climate be expected to promote or to effect a cure. Life may, no doubt, be prolonged in many cases even in the later stages. At the same time, it seems little short of cruelty to send a doomed consumptive away from home comforts to die at sea, or to lay his bones on a foreign strand. Much circumspection therefore is needed on the part of the physician who is called upon to decide whether a patient is to go abroad or to stay at home. And, again, a fit choice has to be made in each case of a long sea voyage, the seaside littoral, a mountain health resort, or a lowland and inland climate.

1. *A Sea Voyage* has its drawbacks as well as its advantages. The sea-sickness at first, and the close quarters on board ship at night and in bad weather must be set against the quiet, restful deck-life by day and in fine weather. Again, a sea voyage to do good must be a *long* one—even farther than the Cape—it must if possible be to Australia or New Zealand. Further, so rapidly do first-class liners now travel that dangerously sudden changes of temperature may be experienced by one not physically able to bear such vicissitudes—

> Cælum non animum mutant qui trans mare currunt.

It will be better, therefore, for the patient to travel in a clipper ship than on board a steamer. The outward sailing voyage to Australia takes three months, and there are suitable vessels, with special accommodation for invalids, which sail every autumn from the London Docks. Even in this case the patient may be bored with *ennui*, or may suffer from a monotonous dietary and lack of fresh food. All writers are agreed that the return journey from Australasia should not be made round Cape Horn, which lies nearly 22 degrees south of the Cape of Good Hope—the latitude of the former being 55° 58′, that of the latter 34° 22′. It must not be forgotten that, owing to an eternal snow-covering over the Antarctic Continent, the mean temperature of Lat. 56° S. is much lower than that of Lat. 56° N., and winter reigns throughout the year in Terra del Fuego.

2. *The Sea-shore* itself is unsuitable as a residence for consumptives in general. Bronchial irritation is often increased, fever tends to run higher, sweating and prostration are intensified. I have often heard a phthisicial patient say that the "sea air was too strong for him," and he was perfectly right. On the other hand, consumptives often do well *near* the seaside, but a mile or so inland, and at a moderate elevation. The Royal National Hospital for Consumption, near Ventnor, stands at the foot of the downs from which the undercliff has slipped, about 100 feet above the sea, and one-fifth of a mile from the beach. The National Hospital for Consumption at Newcastle, Co. Wicklow, is 2 miles inland at an elevation of about 250 feet. If we seek an explanation of the different effect on consumption of sea-air at sea and at the seaside, we find it probably in the presence of dust in the latter, its absence in the former. Dust-particles, as proved by Mr. John Aitken, of Falkirk, act as condensers in moist air, and so fog and mist are generated on the littoral, whereas on the open sea the moisture remains suspended in an invisible form. Besides, temperature ranges are more sudden and extreme on shore than at sea.

3. *Mountain Health Resorts.*—These places possess the special recommendations of a pure air, dryness, and sunshine. It used to be thought that the reduced atmospheric pressure favoured blood-spitting, and that patients given to hæmo-

ptysis should not resort to high altitudes like Davos and St. Moritz in the Alps, or the uplands of Colorado in North America. The danger is exaggerated. Many years ago I attended a barrister in early phthisis, who spent the following winter at St. Leonard's-on-Sea. While there he had profuse hæmoptysis on more than one occasion. The two following winters were spent at Davos, whence he returned practically cured. Several years afterwards he got an attack of pneumonia, which killed him. Dr. Hermann Weber and Dr. Michael Foster[*] name the following contra-indications to a residence in the High Alps in phthisis—albuminuria, nephritis, valvular disease of the heart, degeneration of the arteries, tuberculous diarrhœa, perichondritis laryngea, high fever due to rapid extension of the tubercular process in the lungs, advanced and extensive disease. The subjects of "constitutional erethism."—that is, persons with habitually quick pulse, prone to feverish attacks, and with an irritable condition of the nervous system—do badly in the rarefied air. Some people, also, especially the elderly, cannot bear cold, and so should not be sent to the Alps. The same writers remind us that "the special utility of the *Colorado* resorts lies in the fact that profitable occupation, or at least a livelihood, can be obtained in a climate little if at all inferior to that of the Swiss Alps."

4. *Dry, Sunny Climates* are to be found in California, Australia, South Africa, and Egypt. In all these regions the benefits derivable from climatic conditions are much discounted by the prevalence of dust. Febrile and late cases do not, as a rule, progress favourably, and should not be sent so far afield. The Canterbury Plains, New Zealand, which lie to the eastward of the Southern Alps in the South Island, and also Tasmania, are well suited for consumptive invalids.

In the case of New Zealand, the moisture borne in by the "brave west winds" from a vast ocean falls in abundant rains on the western slopes of the Southern Alps, which, in Mount Cook, attain a height of 14,000 feet. Deprived of its moisture, the air then descends upon the Canterbury Plains dry and warm.

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[*] "Climate in the Treatment of Disease" in a System of Medicine, edited by Dr. Clifford Allbutt. Vol. I., page 887. London: Macmillan. 1896.

Separated from the continent of Australia by about 200 miles of water (Bass's Strait), and washed on its western, southern, and eastern seaboard by the South Pacific Ocean, the Island of Tasmania (or Van Dieman's Land) possesses a typically temperate and insular climate. It is just five-sixths the size of Ireland; the scenery is beautiful—highlands alternating with open plains, gentle undulations covered with forests, or deep and lovely valleys through which flow numerous rivers from the central lakes, cradled in the midst of lofty mountains. Dr. E. Swarbreck Hall[a] wrote as follows in 1872:—"Of the preservative and curative effects of the Tasmanian climate to those having the consumptive diathesis, I could, from my personal experience, give many illustrations; but one striking instance may suffice. I know a lady, now in her sixty-fifth year, who, when twenty-six years old, left England with her husband for this Colony, not being expected either by her husband or father, both medical practitioners, to survive the voyage; she had lost all her offspring, either by miscarriage or by premature births. Since her residence in this Island she has never had a consumptive symptom, and has a grown-up family all free from any sign of the tubercular diathesis."

5. *Moist, Warm Climates* are those of Madeira, Grand Canary, Florida, and (in summer) the southern coasts of England and Ireland. Irritability of the mucous membranes, associated with much dry cough and a tendency to emphysema, is benefited by this class of climate, whereas a terebinthine atmosphere like that of Arcachon or Bournemouth would be indicated in cases with profuse secretion (bronchorrhœa).

Time, however, forbids me to enter at greater length into this question of the climatic treatment of tuberculosis. What I have stated may afford material for discussion on this branch of the subject.

VIII. DIETETICS AND THERAPEUTICS.

These topics may well be considered together. Nor need we enter into details as to the feeding of a patient in declared consumption, for his dietary should be that already above described under the heading of "Prevention of Tuberculosis." Milk, eggs, butchers' meat, and fish should form the staple food of the phthisical. I have long taught successive generations of medical students that in consumption a high bodily temperature does not debar a meat dietary; on the contrary, the constitutional state of the patient will probably improve on such a diet if he has appetite for it. Should the appetite flag, nourishing light meals should be given at shorter intervals than in health, the invalid sometimes being fed as a fever patient.

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[a] Proceedings of the Royal Soc. of Tasmania, 1872.

Milk is universally regarded as the best food in consumption. If it does not agree when taken plain, it may be given with an effervescing water, with saccharated solution of lime, as rennet or junket, peptonised, fermented as "Koumiss," even as buttermilk or as whey with the addition of cream. Milk and egg-puddings are very nutritious; and should stimulants be needed, rum, brandy, or whisky and warm milk, or egg-flip made with milk, or "syllabub" may be ordered. By this last term I mean a mixture of frothing milk warm from the cow and wine or spirit with sugar. In fact, the cow should be milked through fine muslin into a vessel containing the stimulant and sugar. Asses' milk and goats' milk have long enjoyed a reputation in the dietetic treatment of consumption. Horlich's malted milk will be found an excellent preparation, nutritious and borne by the most fastidious and delicate stomach. A capital diet-table for consumption is given by Dr. Ransome at page 87 of his work on "The Treatment of Phthisis." With him I thoroughly agree that *cod-liver oil* should be looked upon as a most valuable food rather than as a medicine in consumption. Most patients can be gradually "acclimatised" to the drug, a small dose at bedtime being tried in the first instance, taken on clove tea or with lemon juice, or orange wine, or floating on milk sweetened with glycerine, or flavoured with cherry-laurel water. Malted emulsions of the oil may also be tried. Many years ago I learned from my sister, then Lady Superintendent of the Children's Hospital, Fisherwick-place, Belfast, an excellent formula for a cod-liver oil emulsion which was used by the physicians of that institution. As I prescribe this emulsion now the formula runs:—

℞. Olei Morrhuæ, ℥ij.
Liquoris Calcis Saccharati, ℥ss.
Essentiæ Cinnamomi, ʒss.
Glycerini, ℥jss.
Aquæ, ad ℥vj.

M. ft. emulsion. *Signa*: "A teaspoonful to a tablespoonful thrice daily after food—having first shaken the bottle."

Delicate children simply *thrive* on this mixture, but older patients may also take it with advantage.

Chloride of Calcium, the old *Muriate of Lime*, is a drug of extreme value in the preventive not less than in the curative treatment of phthisis. I have been using it constantly for many years past, and can speak with confidence of its worth. It may be remembered also that, in 1891, Dr. A. E. Wright[a] discussed the possibility of increasing the coagulability of the blood within the vessels by means of the internal administration of chloride of calcium. He proposed to use this and other lime salts in various ways as *styptics*. A long clinical experience has assured me that hæmoptysis is less frequent when chloride of calcium is exhibited, and may be controlled by its use. The formula I use is a complex, but an effectual one:—

℞. Liquoris Calcii Chloridi (B. P.), ʒvj.
Acidi Hydrochlorici diluti, ʒj.
Liquoris Strychninæ Hydrochloratis, ʒj.
Acidi Hydrocyanici diluti, ʒss.
Liquoris Arsenici Hydrochloric, ʒss.
Aquæ Chloroformi, ad ℥viij.

Signa: "A tablespoonful by measure twice or thrice daily after meals."

Another tonic of great use is an anti-catarrhal pill which was recommended as such in the *Practitioner* several years ago:—

℞. Quininæ Sulphatis, gr. 18.
Liquoris Arsenicalis, min. xij.
Liquoris Atropinæ Sulphatis, min. j.
Pulv. Gummi Acaciæ, gr. 12.
Extracti Gentianæ, q.s. ut fiant pilulæ xij.

Signa: "One pill thrice daily after meals."

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[a] See Brit. Med. Journ., Dec. 19, 1891.

Nor is this the only use of Quinine in Tuberculosis. Its bactericide properties may be utilised to disinfect the mouth, and so to aid the phagocytic action of the laryngeal and pharyngeal tonsils and protecting rings of lymphoid tissue, spoken of by Dr. Sims Woodhead[*] as guarding the approaches to the larynx and œsophagus respectively against invading micro-organisms. The best way of using quinine for this purpose is to mix 2 or 3 grains in a wineglassful of water, and then to thoroughly gargle the mouth and fauces with the milky fluid, swallowing the last mouthful or two.

For *cough*, my favourite prescriptions are:—

1. ℞. Acidi Hydrobromici diluti, ʒiij.
Aquæ Laurocerasi, ʒiij.
Glycerini, ʒij.
Aquæ, *vel* Aquæ Chloroformi, ad ʒvj.

A dessert-spoonful to be sipped occasionally.

2. ℞. Liquoris Morphinæ Acetatis, ʒj.
Glycerini, ʒvij.
Succi Limonis, ℥j.

A teaspoonful to be sipped as required.

3. (Dr. William Murrell)—
℞. Codeinæ, gr. 4.
Acidi Hydrochlorici diluti, ʒss.
Spt. Chloroformi, ʒiss.
Syrupi Limonis, ℥j.
Aquæ, ad ℥iv.

Fiat linctus. "A teaspoonful frequently when the cough is troublesome."

4. (Dr. Warburton Begbie)—
℞. Acidi Hydrocyanici diluti, ʒss.
Acidi Nitrici diluti, ʒiij.
Glycerini, ℥j.
Infusi Quassiæ, ad ℥viij.

"A tablespoonful in a wineglassful of water three times a day."

This last prescription is an excellent tonic as well as a cough-mixture. Both cough and dyspnœa are wonderfully relieved in some cases by inhalations of oxygen. The remedy is especially indicated where cyanosis exists, and where one lung is doing the work of two.

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[*] Channels of Infection in Tuberculosis. Lancet, Oct. 27, 1894. Page 958.

To control *sweating*, I use three grains of Dover's powder, or a pill of oxide of zinc and belladonna. Tepid sponging with vinegar and water, or Eau-de-Cologne and water, or toilet vinegar and water, is both refreshing and effectual.

For the extremely distressing *dyspepsia* of phthisis, I have of late used with good effect fluid extract of condurango in thirty-drop doses in water. It was Dr. James Little who first told me about this remedy, which is highly spoken of by Dr. Dettweiler, of Falkenstein. Schacht's solution of bismuth is another excellent palliative.

In the *fœtid diarrhœa* of tubercular enteritis, great relief is obtainable from either of the following prescriptions:—

1. (William Martindale)—

℞. Acidi Carbolici Purissimi Crystallisati, gr. 6.
Pulveris Opii, gr. 1½.
Glycerini, min. jss.
Pulveris Althææ, gr. 12.

Divide into 12 pills. One thrice daily while necessary.

2. ℞. Tinct. Chloroformi et Morphinæ, ʒj.
Glycerini Acidi Carbolici, ʒj.
Aquæ Menthæ Piperitæ, ad ℥ij.

Signa: "A teaspoonful in water after each liquid motion."

Salol and carbonate of guaiacol are among the antiseptic remedies which do good in diarrhœa. Guaiacol, in fact, is in highest favour on the Continent as a *cure* for consumption in general. A patient, who wintered in 1895–96 at Arcachon under my advice, had large doses in sterilised almond oil injected hypodermically and with benefit. When he entered my consulting-room on his return last spring, the odour of guaiacol was at once perceived, so saturated was he with the drug. Iodoform or eucalyptol may be added to the injection.[*]

Vomiting is often relieved by swallowing a cocaïn tabloid (one-sixth to one-third of a grain) as prepared by Messrs.

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[*] In a paper communicated to the Royal Medical and Chirurgical Society of London, on November 27, 1894, Mr. Colin Campbell, of Saddleworth, recommended that respiratory affections, including pulmonary phthisis, should be treated by means of large medicinal injections through the larynx, as first suggested by Professor Rosenberg, of Vienna.

Burroughs, Wellcome & Company. Dr. Ransome[a] speaks favourably of sulphuric acid and nepenthe in the diarrhœa and vomiting of phthisis. His formula is this—

℞. Acidi Sulphurici diluti,
Nepenthe, āā min. x.
Syrupi Aurantii, ℥j.
M. To be taken in water for one dose.

The use of mercury in tuberculosis has recently been revived, but I have no personal experience of it. Giampietro (*Gazz. degli Ospedali*, No. 140, 1895), believes that its mode of action is equivalent to its effect in syphilis. In all forms of tuberculosis a solution of 1 milligramme of corrosive sublimate in 3 grammes of distilled water was injected hypodermically with a Pravaz' syringe each day. The majority of his observations were made in an institution for deaf mutes under his care.

Of *serumtherapy* in tuberculosis also I have no practical knowledge; but it will, no doubt, be a principal method of treatment in the near future. Professor E. Maragliano, of Genoa, made an important communication on the serum treatment of tuberculosis to the Section of Medicine at the last meeting of this Association in London.[b] He tried the serum clinically in 82 cases. He insists that the treatment is applicable in all forms of pulmonary tuberculosis. It is never injurious and nearly always does good. His opinions are confirmed by the results obtained by Renzi (*Rif. Med.*, January 11, 1896), and Regnier (*Le Progrès Médical*, February 8, 1896).

VIII. NOTIFICATION.

A word on this subject and I have done. Is it desirable that tuberculosis should be added to the schedule in the Infectious Disease Notification Act, 1889? Compulsory notification of tuberculosis, as has been well shown by Dr. Russell,[c] "would cover an enlarged cervical gland, a lupus, a white swelling, a hydrocephalus, a 'cold abscess,' every form of local tubercle, as well as a case of phthisis." Then the chronicity of tuberculosis must be remembered. Individual cases would come to be notified over and over again in the lapse of months or years. And supposing notification to have taken place, of what use would it be as regards disinfection, while the invalid was still occupying his room or dwelling?

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[a] Loc. cit. Page 193.
[b] Brit. Med. Journal. Aug. 17, 1895. Page 444.
[c] Loc. cit. Page 29.

At the same time voluntary notification should be encouraged, and notification of a *death* from tuberculosis should be made compulsory, so that the local sanitary authority should take steps to disinfect the dwelling-place and effects of the deceased.

CONCLUSION.

Mr. President and gentlemen, I am deeply sensible of the honour of being called upon to open a discussion on tuberculosis in the Section of Medicine, and I gratefully acknowledge the compliment which has been paid me. At the same time I am profoundly conscious both of the responsibility attaching to the protagonist on so special an occasion, and of my own shortcomings in the attempt which I have made to fulfil the task entrusted to my care. I shall not, however, have entirely failed, if the topics to which I have directed your attention should elicit a discussion in any way commensurate with their profound interest to Medical Science, and their important bearing upon the health and welfare of mankind.

Registration of Deaths—England and Wales.

Table I.—*Showing the Number of Deaths from the following causes, viz.:*—(1.) *Tabes Mesenterica*, (2.) *Tubercular Meningitis*, (3.) *Phthisis*, (4.) "*Other Forms of Tuberculosis, Scrofula*;" *as well as the Total Number of Deaths from All Causes, registered in England and Wales in each of the fourteen years*, 1881–1894.

Years	Number of Deaths from				Total Number of Deaths from all the foregoing causes	Total Number of Deaths from All Causes, including Tuberculosis	Percentage of Deaths caused by Tuberculosis of all Forms
	Tabes Mesenterica	Tubercular Meningitis	Phthisis	"Other Forms of Tuberculosis, Scrofula"			
1881	7,402	7,176	47,541	3,785	65,904	491,935	13·4
1882	8,246	6,959	48,715	4,040	67,960	516,654	13·2
1883	7,683	6,986	50,053	4,268	68,990	522,997	13·2
1884	8,367	7,124	49,325	4,592	69,408	530,828	13·1
1885	6,825	6,874	48,175	4,284	66,158	522,750	12·7
1886	8,265	7,073	47,872	4,865	68,075	537,276	12·7
1887	7,034	6,581	44,935	4,971	63,521	530,758	12·0
1888	6,774	6,743	44,248	4,917	62,682	510,971	12·3
1889	7,645	6,647	44,738	5,205	64,235	518,353	12·4
1890	7,632	6,889	48,466	5,443	68,430	562,248	12·2
1891	7,301	7,180	46,515	5,911	66,907	587,925	11·4
1892	7,135	6,691	43,323	5,866	63,015	559,684	11·3
1893	7,867	6,725	43,632	5,518	63,742	569,958	11·2
1894	5,763	6.345	41,641	5,552	59,301	498,827	11·9
Totals	103,939	95,993	649,179	69,217	918,328	7,461,164	12·3 Mean

REGISTRATION OF DEATHS—IRELAND.

TABLE II.—*Showing the Number of Deaths from the following causes, viz.:*—(1.) *Tabes Mesenterica,* (2.) *Tubercular Meningitis,* (3.) *Phthisis,* (4.) "*Other Forms of Tuberculosis, Scrofula;*" *as well as the Total Number of Deaths from All Causes, registered in Ireland in each of the fourteen years,* 1881–1894.

YEARS	Number of Deaths from				Total Number of Deaths from all the foregoing causes	Total Number of Deaths from All Causes, including Tuberculosis	Percentage of Deaths caused by Tuberculosis of all Forms
	Tabes Mesenterica	Tubercular Meningitis	Phthisis	"Other Forms of Tuberculosis, Scrofula"			
1881	1,166	935	10,027	856	12,984	90,035	14·4
1882	1,062	1,005	10,258	771	13,096	88,500	14·8
1883	1,120	978	10,775	901	13,774	96,228	14·3
1884	1,064	1,014	10,583	785	13,446	87,154	15·4
1885	1,047	1,066	10,709	811	13,633	90,712	15·0
1886	1,120	1,007	10,694	835	13,656	87,292	15·6
1887	1,047	954	10,329	806	13,136	88,585	14·8
1888	997	896	9,812	815	12,520	85,892	14·6
1889	1,055	815	9,951	811	12,632	82,908	15·2
1890	918	788	10,176	897	12,779	85,850	14·9
1891	950	824	10,038	1,000	12,812	85,999	14·9
1892	1,116	886	10,048	916	12,966	90,044	14·4
1893	971	855	9,869	969	12,664	82,821	15·3
1894	958	611	9,626	930	12,125	83,528	14·5
Totals	14,591	12,634	142,895	12,103	182,223	1,225,548	14·9 Mean

Registration of Deaths—Scotland.

Table III.—*Showing the Number of Deaths from the following causes, viz.:*—(1.) *Tabes Mesenterica,* (2.) *Tubercular Meningitis,* (3.) *Phthisis,* (4.) "*Other Forms of Tuberculosis, Scrofula;*" *as well as the Total Number of Deaths from All Causes, registered in Scotland in each of the fourteen years,* 1881–1894.

Years	Number of Deaths from				Total Number of Deaths from all the foregoing causes	Total Number of Deaths from All Causes, including Tuberculosis	Percentage of Deaths caused by Tuberculosis of all Forms
	Tabes Mesenterica	Tubercular Meningitis	Phthisis	"Other Forms of Tuberculosis, Scrofula"			
1881	1,084	1,815	7,739	637	11,275	72,325	15·6
1882	1,060	1,835	8,012	701	11,608	72,989	15·9
1883	1,002	1,070	8,401	619	11,092	76,891	14·4
1884	972	1,275	7,915	633	10,795	75,168	14·4
1885	952	1,219	7,922	631	10,724	74,607	14·4
1886	1,064	1.249	7,959	670	10,942	73,640	14·9
1887	982	1,224	7,418	651	10,275	74,546	13·8
1888	849	1,186	7,044	646	9,725	71,174	13·7
1889	851	1,163	7,098	610	9,722	73,238	13·3
1890	838	1,140	7,660	656	10,294	79,004	13·0
1891	858	1,242	7,361	680	10,141	83,573	12·1
1892	807	1,112	6,765	634	9,318	75,545	12·3
1893	968	1,185	6,921	727	9,801	79,641	12·3
1894	754	1,150	7,108	717	9,729	71,112	13·7
Totals	13,041	17,865	105,323	9,212	145,441	1,058,453	13·8 Mean

REGISTRATION OF DEATHS, IRELAND.

TABLE IV.—*Showing the Number of Deaths from the following causes, viz.:—(1.) Tabes Mesenterica; (2.) Tubercular Meningitis; (3.) Phthisis; (4.) "Other Forms of Tuberculosis, Scrofula;" registered in each of the Poor Law Unions, or Superintendent Registrars' Districts of Dublin North, Dublin South, and Belfast, during each of the Fourteen Years,* 1881–94. *Also the Total Number of Deaths from all Causes registered in those Unions during the years referred to.*

YEARS	DUBLIN NORTH UNION						DUBLIN SOUTH UNION						BELFAST UNION					
	Number of Deaths from					Total Number of Deaths from all causes	Number of Deaths from					Total Number of Deaths from all causes	Number of Deaths from					Total Number of Deaths from all causes
	Tabes Mesenterica	Tubercular Meningitis	Phthisis	"Other forms of Tuberculosis, Scrofula"	All the foregoing causes		Tabes Mesenterica	Tubercular Meningitis	Phthisis	"Other forms of Tuberculosis, Scrofula"	All the foregoing causes		Tabes Mesenterica	Tubercular Meningitis	Phthisis	"Other forms of Tuberculosis, Scrofula"	All the foregoing causes	
1881	84	68	528	29	709	3,973	83	90	601	46	820	5,419	107	118	889	52	1,166	5,436
1882	115	62	509	12	698	4,071	89	86	704	40	919	5,534	99	117	899	53	1,168	5,871
1883	130	54	556	39	779	4,126	103	84	770	70	1,027	5,925	123	123	936	67	1,249	6,215
1884	105	63	506	25	699	3,821	139	113	749	70	1,071	5,734	85	121	921	36	1,163	5,448
1885	88	74	557	33	752	4,209	126	101	728	57	1,012	5,838	128	132	999	82	1,341	6,683
1886	120	55	535	56	766	3,939	142	79	727	76	1,024	5,426	140	136	1,041	68	1,385	5,833
1887	102	56	586	51	795	4,556	118	100	675	71	964	6,146	154	116	956	61	1,287	6,426
1888	110	48	478	31	667	3,771	91	102	637	77	907	5,084	121	110	982	75	1,288	6,379
1889	127	69	503	57	756	3,957	128	82	671	76	957	5,019	192	91	1,074	70	1,427	6,459
1890	101	68	543	53	765	3,905	104	69	706	106	985	5,205	151	91	1,143	74	1,459	7,336
1891	102	58	495	76	731	3,819	93	77	746	145	1,061	5,295	157	114	1,133	87	1,491	7,111
1892	147	56	551	69	823	4,466	114	123	737	146	1,120	5,740	207	164	1,192	93	1,656	7,566
1893	123	67	541	51	782	4,044	117	87	755	135	1,094	5,270	149	121	1,102	112	1,484	7,461
1894	106	35	529	52	722	3,694	99	73	692	112	976	4,892	142	84	1,056	83	1,365	7,245
Totals	1,560	833	7,417	634	10,444	56,351	1,546	1,266	9,898	1,227	13,937	76,527	1,955	1,638	14,323	1,013	18,929	91,469

The Population of North Dublin Union in 1881 was 142,981: in 1891 it was 148,906.
Do. South " " 202,264: " " 200,709.
Do. Belfast Union " " 230,288: " " 289,860.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Quain's Elements of Anatomy. Edited by E. A. SCHAEFER, F.R.S., Professor of Physiology and Histology in University College, London, and GEORGE DANCER THANE, Professor of Anatomy in University College, London. Tenth Edition. (I.) Vol. III., Part IV.: *Splanchnology.* By Professor SCHAEFER, F.R.S., and Professor JOHNSON SYMINGTON, M.D., Professor of Anatomy, Queen's College, Belfast. (II.) Appendix: *Superficial and Surgical Anatomy.* By Professor G. D. THANE and Professor R. J. GODLEE, M.S. London, New York, and Bombay: Longmans, Green & Co. 1896.

THESE two parts complete the tenth edition of Quain's Anatomy. This work heretofore appeared in the form of two moderate-sized volumes, while the present edition is made up of no less than nine separate books, constituting three volumes in eight parts and an appendix. We need not point out, after making this statement, that for the future Quain's Anatomy, with its eight separate parts, can hardly be looked upon as a students' text book.

1. The first of the two parts which we notice now is devoted to splanchnology, the histology being the work of Professor Schaefer, and the ordinary anatomy coming from the pen of Professor Symington, of the Queen's College, Belfast, who has already done such good work in this direction, and who is so well fitted to carry out the task which has been allotted to him.

The book commences with the digestive organs. The mouth, tongue, palate, and salivary glands are carefully treated in order, and some useful new illustrations are added. Then follow the teeth, which are very fully and very well done; no less than thirty pages being devoted to them. The new illustrations, too, covering both the macroscopic and microscopic anatomy of these organs are excellent and numerous. These are followed by very satisfactory and complete descriptions of the pharynx and œsophagus.

We next enter the abdomen, and we are at once struck by the prudence and caution of the authors, who throw the onus of deciding which is the best method of sub-dividing the abdominal cavity on the writers of the appendix—a very prudent course, seeing that opinions have been so much divided of late on the question. The description of the peritoneum is postponed to the end of the book, and the stomach is taken up. The account of this organ is very good, and very full, particularly as regards the minute anatomy. The statement on page 83 that the veins of the stomach, as well as the other tributaries of the vena portæ, contain numerous valves (Hochstetter) is at variance with statements in other parts of the work. We also think that diagram A, fig. 85, is not satisfactory. The description of the intestines is excellent. There are a few points of minor importance to which we might take exception were we hypercritical. For instance, we see no reason for not mentioning, when describing the relations of the transverse colon, its connection with the pancreas. We also think that fig. 139 is not instructive, although we admit that it is a very true representation of the part as seen when hardened by chromic acid. The liver comes next. It is an organ to which Professor Symington has devoted much attention, and in its description his hand can be traced, as, for example, in the number of surfaces described, which are five—anterior, posterior, superior, inferior, and right, differing from the ancient description, which recognised two surfaces, and His's, which introduced three. The pancreas, too, which follows, shows the traces of Professor Symington's work, and is equally well done. We do not quite agree with the statement at the bottom of page 139, that "the superior and inferior pancreatico-duodenal vessels pass down in front of the head" of the pancreas.

After the pancreas come the organs of voice and respiration In the account of the larynx we notice an improved description of the arytenoid cartilage, unfortunately without suitable illustrations, and an admirable little paragraph on the morphology of the cartilages. The description of the cuneiform cartilage, on the other hand, is, we imagine, not quite realistic. The thyro-arytenoid muscle is more satisfactory than in the preceding edition. We think that Ewart's pictures of the bronchial tree would be much more instructive than those taken from Aeby. Several good illustrations of frozen sections of the thorax have been added with great advantage. In this connection we would point out that there is not a single picture of a complete transverse frozen section of the abdomen in this part, nor, as well as we remember, in the whole of the present edition of Quain's Anatomy, which we consider a very serious omission.

The urinary organs succeed the lungs, beginning with an excellent diagram of the relations of the kidneys from behind. The kidneys, bladder, and urethra are carefully and fully treated, and several good illustrations of sagittal sections of the pelvis replace the faulty one of former editions. We do not like the expression on page 191 that "the upper end of the right kidney is capped . . . by the liver," seeing that the greater part of the anterior surface of the organ is covered by it.

Next come the reproductive organs, male and female, which are treated at considerable length and with complete success. The female organs particularly are quite up to date, and call for special commendation. Not only are the descriptions clear and practical, but several good new illustrations have been added. We notice, specially, a great improvement in the description of the prostatic utricle. A few small points we would note. On page 219, in enumerating the coverings of the cord and testis, the superficial fascia and dartos tissue are mentioned as if they were separate structures. On page 235 the second sentence in the second paragraph, under the heading Common Seminal or Ejaculatory Ducts, does not seem to read correctly. We do not like, on page 238, near the end, the description of the suspensory ligament as lying in front of the root of the penis; it may lead to a misunderstanding in the mind of a student. We think, too, that the expression "floor of the passage" (urethra), on page 243, near the end, is also misleading. It would, perhaps, have been well to make an attempt on page

244 to fix one name each for the colliculus seminalis and the prostatic utricle, instead of giving four names for each, and exhibiting no preference for any one. The description of the structure of the urethra in the first paragraph, under the head Urethra, on page 243, does not quite agree with that on page 246, last paragraph. Fig. 266 is good, but some explanation of how the parts are supposed to lie in making the diagram would be useful for students; while the old picture from Sappey on next page is extremely confusing. On page 256, last paragraph, it is said that the glands of Bartholin lie "beneath the inferior layer of the triangular ligament," the meaning of which is probably not what the writer wished to convey.

The mammary gland, which follows the ovary, is very sound work, and some good new illustrations accompany the description.

The part is completed by accounts of the ductless glands and the peritoneum, which are admirable, and which are well illustrated. We think, however, that a picture showing the suprarenals in their true relation to the kidneys might be substituted for fig. 309 with great advantage. Certainly, a realistic picture of the suprarenals would be a useful addition to the work. Under the heading Ductless Glands, with the Spleen, Suprarenals, Thymus, and Thyroid, are included the Parathyroids and the Carotid and Coccygeal Glands.

Throughout the part the list of references to recent literature is very complete and exhaustive.

As regards new illustrations, they are thoroughly satisfactory both in subject-matter and in the method of reproduction. The only fault we have to find with them is in their distribution. If it was necessary to limit the number, it would have been well to introduce at least two pictures of transverse sections of the abdomen, instead of some of the five transverse sections of the thorax—excellent though they are. The abdomen has certainly been neglected in this regard. Again, new pictures of the larynx might, perhaps, have been introduced with advantage, as might a picture giving a front view of the thoracic viscera *in situ.* To the illustrations of the suprarenals we have called attention above. Finally, in this connection, we would ask, Why are not the references and explanations which are placed beneath the illustrations given in alphabetical order? It is most annoying to have to search up and down through a long list of references for a single item.

In the foregoing we have mentioned a few minor points in which we think the part before us could be improved; but, having said this, we must add our opinion that the book of which we write is one of the most succesful, if not the most successful, of the eight parts of Quain's Anatomy. The descriptions, which are clear and full, are eminently common-sense and practical. Still sufficient attention is devoted to the purely scientific aspect of the subject. The illustrations are good, and the whole book is distinctly readable and satisfactory. In brief, it is an excellent bit of work, and we can warmly congratulate the distinguished authors on the success which has attended their efforts.

2. *Appendix to Quain's Anatomy, Tenth Edition.*—The appendix is devoted to superficial and surgical anatomy, and is the joint work of Professors Thane and Godlee. The book, independent of the index, runs to 66 pages, with 29 illustrations, 24 of which are quite new. It consists of (1) "A brief account of the external conformation of the body, including the relation of its anatomical constituents to its surface forms and the mode of determining the position of deep-seated organs," and (2) "The topographical and surgical anatomy of the inguinal and perineal regions." We think there was a distinct want for a clearly-written, well-illustrated and convincing book, of moderate size, on the matter of the appendix before us, and we hoped to find this want successfully filled by the applied anatomy part of Quain's Anatomy, but we must candidly admit that we have been somewhat disappointed. The appendix, we fear, does not meet the want; we, at least, are not satisfied with it, and we think that it does not reach the level of the other parts of Quain's Anatomy. Its greatest wants are brightness and thoroughness in description and in illustration. It certainly has some good points, but, on the whole, it is unattractive and half-hearted, and we cannot help feeling that this is largely due to the paucity of illustrations. While saying this we must not fail to commend some of the new illus-

trations which have been introduced into the part, particularly those illustrating the anatomy of hernia, the air spaces and the mastoid region of the skull.

The order pursued is as follows:—The book commences with the superficial anatomy of the head and neck, including the scalp, the air spaces, cranio-cerebral topography, the mastoid region, face, mouth and neck. The cranio-cerebral topography, to our mind, is not satisfactory—it is too involved and complicated. True, it is difficult to make such a subject simple, nevertheless we think it possible to reduce many of its intricacies to a simpler state. The face and mastoid region are good, as is the neck. Two points in these call for remark:—We are not satisfied with the localisation of the lingual nerve internal to the last molar which is too loose, or of the spinal accessory passing under the sterno-mastoid, which is not practical enough.

The chest is next treated practically without a diagram (there is one which is devoted to chest and abdomen which appeared in former editions, and is of very little use). The description is not particularly interesting. We observe here (page 20) the statement that the apex of the lung "projects very slightly, if at all, beyond the plane of" the first rib, with which we do not agree. After the chest comes the abdomen. The subdivisions of the cavity adopted are those of Cunningham. The wall is first described, and afterwards the contents. In connection with the wall we think it would have been well, on page 24, to make the relation of the spine of the pubes to the external abdominal ring and to the neck of an inguinal hernia more clear. The determination of the position of the kidneys from the front is unnecessarily elaborate.

The abdomen is succeeded by the back. Under this head Professor Symington's excellent diagram of the kidneys (from Vol. III., Part IV.) is inserted, and is most useful; indeed, diagrams of this character are of the greatest value in topographical anatomy. There also appears here a very interesting table, showing the levels of various structures in the trunk in relation to the bodies of the vertebræ. The superficial anatomy of the upper limb which follows calls for no special remark, except, perhaps, that we miss the well-known relations of the condyles to one another, and to the olecranon at the elbow, a point of very considerable practical importance. The lower limb follows in the same lines as the upper, and is succeeded by the anatomy of herniæ and of the perineum. These latter important regions are rather briefly dismissed, and few explanations of difficult points are offered. On page 64, second paragraph, we think the lavator ani was meant where the external sphincter is mentioned. On the same page, fifth paragraph, there is a statement about the upper layer of the deep perineal fascia which may prove misleading. Under the heading Vaginal Examination no reference whatever is made to the ureters, an omission which gynæcologists will not let pass without comment. The fact is the ureters are entirely neglected in the book. We need say no more about the appendix; its great wants, as we have pointed out, are perspicuity and completeness.

3. *Quain's Anatomy, Tenth Edition, complete.*—And now, having reviewed the last part of this notable work, we may look back over the whole and express our opinion of the completed tenth edition. The questions which naturally arise are:—Has it been a success? Is it an improvement on its predecessor? Our answer to both questions is distinctly—Yes. The tenth edition is a great work carried to a successful issue, and we can offer our warmest congratulations to the authors, the artists, and the publishers upon the successful completion of the most important text-book of human anatomy which has been published in the English language.

Another question which will naturally suggest itself is—Was it advisable to divide the work which formerly appeared in two parts, or volumes, into eight or nine? The answer is not easy to find. We have no doubt the division was largely a matter of expediency, such an amount of literature had accumulated and had to be consulted in connection with each division of the subject that a long interval would of necessity have separated the two volumes, were the book issued in that form. The plan adopted allowed each division of the subject to be published as soon as it was completed without waiting for its companions. Besides, in answering the question we must remember that the tenth edition, owing to its size and expense, must practically cease to be a students' text-book, otherwise it would have been a mistake to break it up into so many parts.

Although it may be invidious to make distinctions, we still think it may be interesting to contrast the various parts very briefly:—Volume I., Part I., "Embryology." This is an excellent professor's part—not a student's—a condensed, full, and accurate account of the subject. Volume I., Part II., "Histology." A very complete and exhaustive, but to our mind not quite a taking work. Volume II., Part I., "Osteology." An admirable part, with charming illustrations. A part which we cannot praise too highly. Volume II., Part II., "Arthrology, Myology, Angeiology." A thoroughly sound and practical book, entirely successful. Volume III., Part I., "The Spinal Cord and Brain." The spinal cord good; the brain too involved, although very complete. Volume III., Part II., "The Nerves." An excellent part, clear, sound, and bright. Volume III., Part III., "The Organs of the Senses." Very full, intricate at times, and in places not over carefully written. Volume III., Part IV., "Splanchnology." This we have noticed above, and we consider it a thoroughly satisfactory part—accurate, clear, and practical. With the Appendix we are not satisfied—incompleteness and want of brightness are its chief defects.

Of the whole we have but one opinion—it is a great work, the best text-book on the subject in our language, a worthy successor of earlier editions, and a credit to those who are responsible for its production.

Rheumatism: its nature, its pathology, and its successful treatment. By T. J. MACLAGAN, M.D.; Physician-in-Ordinary to their Royal Highnesses Prince and Princess Christian of Schleswig-Holstein. Second Edition. London: Adam and Charles Black. 1896. 8vo. Pp. 324.

DR. MACLAGAN has so identified himself with the treatment of rheumatism by the salicyl compounds, and he so thoroughly and even enthusiastically "believes in" them, that we are ready to condone the somewhat objectionable use of the adjective "successful" in the title of this book. May we also venture to express the opinion that his description of himself as Physician-in-Ordinary to the very estimable members of the Royal Family whose names appear on his title page is not *ad rem*, and had better have been omitted.

These are, however, only minor faults, and in no way detract from the intrinsic merit of the work which lies before us. It consists of twenty-one chapters and an index. It is beautifully printed in large type and on excellent paper by Messrs. R. and R. Clark, of Edinburgh, and being written in clear, terse English, its perusal wearies neither the brain nor the eye of the reader. One of the few literary blemishes we have detected is the repeated use of the word "spirilla" as a singular noun at pages 77 and 80.

The opening chapters deal with the varieties and symptoms of rheumatism; its duration, seat, and nature. Like most modern authorities, Dr. Maclagan looks upon rheumatic inflammation as specific in nature, as resulting from the action of a special poison, or *materies morbi* circulating in the blood, which does not operate in the production of other than rheumatic inflammation.

In chapters V. and VI., the author discusses the lactic acid and neurotic theories of rheumatism respectively only to condemn them. In chapter VII. he does battle for the miasmatic—or, more correctly, the parasitic—theory of the disease. He says: "In rejecting the neurotic theory of rheumatism, we reject the view that the disease is due to disturbance originating independently of a special poison. In rejecting the lactic acid theory, we reject the view that the rheumatic poison is generated within the system. The only alternative view is that this poison enters the system from without." (Page 63.)

Dismissing with scant ceremony the idea that the poison of rheumatic fever is a "contagium" and that the disease is a "continued fever," Dr. Maclagan proceeds to draw, with much ingenuity, an analogy between rheumatic fever and the malarial fevers. Some of his points appear to us to tell either way—for instance, "Profuse perspirations characterise the course of malarial fevers; so they do that of rheumatic fever." What about the repeated sweating of small-pox, or of enteric fever? Again: "During the course of malarial fevers the urine is loaded with urates, so it is in rheumatic fever"—shall we add, "as in typhus, scarlatina, and other continued fevers also"?

But is the author quite correct in denying the *contagiousness* of rheumatic fever? Dogmatism is inadmissible in Medicine. Surely, if the poison of rheumatic fever enters the system from without, if "the rheumatic poison is a minute parasitic organism which finds its nidus in the muscles and fibrous structures of the joints and of the heart, and the symptoms of acute rheumatism result from its reproduction in them" (page 185), we must admit the possibility, not to say the probability, of the rheumatic patient infecting his fellow-man.

The author addresses himself to the all-important question of *treatment* at page 185.

He begins with these curious paragraphs:—

> "A striking fact in the natural history of the malarial fevers is that the trees which provide their cure grow best in countries and localities in which these fevers most prevail—nature seeming to produce the remedy under climatic conditions similar to those which produce the disease." "In rheumatism a low-lying damp locality and a temperate climate present the conditions most favourable to its occurrence. Looking about for a plant or tree which most flourishes under such conditions, that which most naturally presented itself was the willow—the various species of Salix. Among the Salicaceæ, therefore, a remedy for rheumatism was sought. The bark of most willows contains a bitter principle called salicin. This seemed exactly what was wanted. If the miasmatic theory of rheumatism were correct, it seemed not improbable that salicin might exercise on the rheumatic poison the same destructive action that quinine exercises on the poison of ague, and might thus cut short the course of rheumatic fever."

The observations were begun in 1874, and the results exceeded all expectation. They are now a matter of history and need not be here given in detail. Meanwhile Kolbe had discovered a method of manufacturing salicylic acid (originally prepared from salicin) from carbolic acid, and its febrifuge properties were soon recognised. It was quickly seen that the febrile disease in which it did most good was acute rheumatism. Stricker and Riess in Germany, and our author in Great Britain, simultaneously, in 1876, drew the attention of the medical world to this new and eminently successful method of treatment.

Dr. Maclagan appears at all times to have preferred salicin to either salicylic acid or the salicylates. At page 224 he gives his reasons for this preference. He says: "Salicin possesses the advantage of having no deleterious action on the system, while salicylate of soda is occasionally found to produce considerable disturbance of the heart and of the brain—the former showing itself by enfeeblement of the cardiac action, the latter by wandering and delirium." The author then adduces two cases in illustration of his statements, which our own personal experience in practice enables us to corroborate in the fullest manner.

Drs. Latham and Charteris hold that natural salicylic acid, prepared from oil of winter-green (methyl salicylate, $CH_3C_7H_5O_3$), has not the same deleterious action as that prepared from carbolic acid. Professor Charteris thinks that the special impurity which imparts to the sodium salicylate of commerce its disturbing action on the system is creasotic acid, and that the presence of this noxious ingredient is inseparable from the method of preparing the salicylate.

The author considers that the salicyl compounds act by destroying the poison of rheumatism. As to the action of these compounds in the heart complications of this disease, we are thoroughly in accord with Dr. Maclagan. He shows that "any prophylactic property possessed by them in rheumatic inflammation of the heart must be due to their destructive action on the rheumatic poison. But this saving action cannot be got unless they are given in adequate quantity before the poison has begun to act on the heart; for with the commencement of morbid change in that organ terminates the period of possible prevention." (Pages 252, 253.)

The closing chapters of Dr. Maclagan's interesting work deal with rheumatic hyperpyrexia (which he regards as of neurotic origin—a "paralysis of inhibition of metabolism"), the relation of rheumatism and chorea, and anomalous forms of rheumatism.

Dr. Maclagan sets aside the theories that chorea depends on either the morbid condition of the blood or the inflamed condition of the heart in acute rheumatism. He looks upon chorea as the outcome of a disturbance of the motor ganglia, which are an essential part of the motor apparatus. The disturbance is induced by the rheumatic poison, aided by a constitutional predisposition such as is common in females and in young people—the ordinary subjects of chorea.

This work is a thoughtful and able treatise on a disease which is still surrounded by considerable mystery. It clears up a great deal that was hitherto obscure, and its pages deserve an attentive study by the practical physician.

Current from the Main; the Medical Employment of Electric Lighting Currents. By W. S. Hedley, M.D.; Medical Officer in Charge of the Electro-Therapeutic Department at the London Hospital. With illustrations. London: H. K. Lewis. 1896. Pp. 34.

In this work, which consists partly of articles reprinted from the *Lancet*, and partly of new matter, Dr. Hedley points out, first, the difficulties met with in the employment for medical purposes of electricity as supplied by the lighting companies. The chief dangers he believes to lie in leakage currents, and in the breakdown of transformers. In the second part he discusses the medical effects of continuous and of interrupted currents. He then describes with diagrams the control apparatus he recommends.

The book is of an exceedingly technical character, but those who have already devoted some attention to the subject will probably derive useful hints from it.

THE ILLINOIS MEDICAL JOURNAL.

This is a "little stranger" from Dekalb in Illinois. The number before us combines amusement with instruction. It contains the opening chapter of a story "Mary McRae, M.D." in which is introduced a poem "To my Meerschaum," sung by "a rich contralto voice," and a humorous editorial on Consultation and its consequences. There is also an unflattering portrait of Röntgen. The professional contents are up to the average; and the subscription is only a dollar a year.

PART III.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

MEDICAL EDUCATION AND EXAMINATIONS IN IRELAND.

1896-1897.

Medical students in Ireland, as elsewhere, have in the first instance to choose between University Degrees and Non-University Qualifications or Diplomas. Should they elect to try for an University Degree, their choice must lie between the University of Dublin, which requires a Degree in Arts before registrable Degrees in Medicine, Surgery, and Midwifery are conferred, and the Royal University of Ireland, which—while not requiring a full Arts Degree—yet rightly insists on a liberal education in Arts, tested by more than one searching examination in the same, before a candidate graduates in the three branches of medicine already mentioned—Medicine, Surgery, and Midwifery.

Outside the Universities, the chief, practically the only, Licensing Bodies are the Royal Colleges of Physicians and Surgeons, for the Conjoint Examination Scheme between the Royal College of Surgeons in Ireland and the Apothecaries' Hall of Dublin has ceased to exist, and the future position of the latter body as a Licensing Corporation under the Medical Act of 1886 is at present quite undefined. On the other hand, the Royal Colleges are now in a position to give a first-class working qualification in Medicine, Surgery, and Midwifery—a qualification which is registrable under the Medical Acts, which is universally recognised as one of high merit, and the possession of which is attended by no disabilities, such as preventing its possessor from dispensing medicines or keeping open shop for the sale of medicines if he is legally qualified to do so.

The Medical Schools in Ireland are—(1.) The School of Physic in Ireland, Trinity College, Dublin; (2.) The Schools of Surgery of the Royal College of Surgeons in Ireland (including the Carmichael College of Medicine and the Ledwich School of Medicine); (3.) The Catholic University Medical School, Cecilia-street, Dublin; (4.) The School of Medicine, Queen's College, Belfast; (5.) The School of Medicine, Queen's College, Cork; and (6.) The School of Medicine, Queen's College, Galway.

Facilities for Clinical Instruction in fully-equipped Medico-Chirurgical Hospitals exist in Dublin, Belfast, Cork, and Galway; but, as a rule, the Schools of Medicine in Ireland are not attached to a given hospital, or *vice versâ*, as is the case in London and other large centres of medical education. The student will, however, have little difficulty in selecting a hospital in the wards of which he will receive excellent bedside teaching, and have ample opportunity of making himself familiar with the aspect and treatment of disease.

The detailed information which follows is authentic, being taken directly from the published calendars of the respective licensing bodies.

REGULATIONS PRESCRIBED BY THE GENERAL MEDICAL COUNCIL.

With regard to the course of Study and Examinations which persons desirous of qualifying for the Medical Profession shall go through in order that they may become possessed of the requisite knowledge and skill for the efficient practice of the Profession, the General Medical Council have resolved that the following conditions ought to be enforced without exception on *all* who commence their Medical Studies at any time after Jan. 1, 1892:—

(*a.*) With the exception provided below, the period of Professional Studies, between the date of registration as a medical student and the date of Final Examination for any Diploma which entitles its bearer to be registered under the *Medical Acts*, must be a period of *bonâ fide* study during not less than five years.

(*b.*) In every course of Professional study and Examinations, the following subjects must be contained:—

(I.) Physics, including the Elementary Mechanics of Solids and Fluids, and the rudiments of Heat, Light, and Electricity.
(II.) Chemistry, including the principles of the Science, and the details which bear on the study of Medicine.
(III.) Elementary Biology.
(IV.) Anatomy.
(V. to XV.) All the other subjects which are included in the Curriculum of the Royal University.

The first four of the five years of Medical Study should be passed at a School, or Schools of Medicine recognised by any of the Licensing Bodies, provided that the First Year may be passed at a University, or Teaching Institution, recognised by any of the Licensing Bodies, where the subjects of Physics, Chemistry, and Biology are taught.

The Examinations in the Elements of Physics, Chemistry, and Biology, should be passed before the beginning of the Second Winter Session.

The exception referred to above in (*a*) is as follows:—

Graduates in Arts or Science of any University recognised by the Medical Council who shall have spent a year in the study of Physics, Chemistry, and Biology, and have passed an Examination in these subjects for the Degrees in question, should be held to have completed the first of the five years of Medical Study.

I.

UNIVERSITY OF DUBLIN.

DEGREES AND DIPLOMAS IN MIDWIFERY, SURGERY, AND MEDICINE.

The Degrees and Diplomas in Midwifery, Surgery, and Medicine, granted by the University are as follows:—

The Degrees are:—

1. Bachelor in Obstetric Science.
2. Master in Obstetric Science.
3. Bachelor in Surgery.
4. Master in Surgery.
5. Bachelor in Medicine.
6. Doctor in Medicine.

The Diplomas are:—

1. Diploma in Obstetric Science.
2. Diploma in Surgery.
3. Diploma in Medicine.

Besides these Degrees and Diplomas, the University also grants a—

Qualification in State Medicine.

REGULATIONS FOR STUDENTS WHO MATRICULATED ON OR BEFORE 25TH NOVEMBER, 1891.

The following conditions must be fulfilled in order to qualify for the Degrees in Midwifery (B.A.O.), Surgery (B.Ch.), and Medicine (M.B.).

The Student must be of B.A. standing, and his name must be for at least four (Academic) years on the Books of the Medical School, reckoned from the date of his Matriculation. He may carry on his Arts Course concurrently with the Medical Course, and he need not have taken his B.A. before presenting himself for his Final Medical Examinations, but he cannot have the Medical Degrees conferred without the Arts Degree.

II. The following Courses must have been attended:—

[NOTE.—The Courses marked (*) must have been taken out before the Student can present himself for *any* of the Degree Examinations. In addition the Courses marked thus (†) must have been taken out before he can present himself for B.A.O., and the Courses marked thus (‡) before he can present himself for B.Ch.]

1. LECTURES.

WINTER COURSES.

**Systematic Anatomy.*
**Practical Anatomy (with Dissections), 1st year.*
‡Practical Anatomy (with Dissections), 2nd year.
‡Applied Anatomy (with Dissections).
**Chemistry.*
‡Surgery.
**Physiology.*
**Practice of Medicine.*
†Midwifery.

SUMMER COURSES.

**Practical Chemistry.*
**Practical Histology.*
**Botany.*
**Zoology.*
**Materia Medica.*
**Medical Jurisprudence and Hygiene.*
‡Operative Surgery.

TERM COURSES.

**Physics.*—Michaelmas and Hilary Terms.

*2. HOSPITAL ATTENDANCE.

1. Three Courses of nine months' attendance on the Clinical Lectures of Sir Patrick Dun's or other Metropolitan Hospital recognised by the Board of Trinity College.

Students who shall have diligently attended the practice of a recognised London or Edinburgh Hospital for one year, of a recognised County Infirmary, or of a recognised Colonial Hospital for two years previous to the commencement of their Metropolitan Medical Studies, may be allowed, on special application to the Board of Trinity College, to count the period so spent as equivalent to one year spent in a recognised Metropolitan Hospital.

*3. PRACTICAL VACCINATION.

One month's instruction in Practical Vaccination to be attended at the Vaccine Department, Local Government Board for Ireland, 45 Upper Sackville-street; at No. 1 East Dispensary, 11 Emerald-street; or, until further notice, at the Grand Canal-street Dispensary.

*4. FEVER CASES.

A Certificate of personal attendance on not less than five cases of Fever, with names and dates of the cases.

†5. PRACTICAL MIDWIFERY.

A Certificate of attendance on a six months' Course of Practical Midwifery with Clinical Lectures, including not less than thirty cases.

‡6. OPHTHALMIC SURGERY.

A Certificate of attendance on a three months' Course of Ophthalmic Surgery.

III. The following Examinations must be passed:—

A.—The Previous Medical or Half M.B. Examination.
B.—The Degree Examinations.

A.—PREVIOUS MEDICAL EXAMINATION.

This Examination is divided into—

1. Physics and Chemistry.
2. Botany and Zoology.
3. Anatomy and Institutes of Medicine (Practical Histology and Physiology).

The Examination in Anatomy includes examination on the dead subject.

Before presenting himself for examination in any of the subjects the Student must have obtained credit for the corresponding Courses of Lectures and Practical Instruction.

It is not necessary that the Student should pass in all these subjects at the same examination; he is allowed to present himself for examination in as many, or as few of them as he pleases.

A Candidate rejected at the May examination will not be allowed to present himself for examination *in the same subjects* at the June examination.

Candidates who fail in any part of the Examination are liable to be excluded from further examination *in the same subjects*, for a period not exceeding six months, if, in the opinion of the Examiners, they have given evidence of careless preparation.

Any Student who has obtained a Moderatorship in Natural Science, or a First Honor in Natural Science in both his junior and Senior Sophister years, and has credit for attendance at not less than thirty Lectures in Botany and Zoology in his Sophister years, may present himself at the previous Medical Examination in these subjects.

Examinations will be held on Nov. 9, Feb. 1, May 24, June 24, June 28, and following days. Notice must be given to the Registrar of the School of Physic between Nov. 2 and 6, Jan. 25 and 29; May 17 and 21; June 17 and 22; June 21 and 25, respectively.

No Candidate will be allowed in for any Examination unless he has given notice within the days specified.

B.—DEGREE EXAMINATIONS.

There are three Degree Examinations, the B.A.O., the B.Ch., and the M.B. These may be taken in any order, provided that the requisite conditions have been fulfilled, and the Previous Medical Examination passed in all subjects.

1.—*Bachelor in Obstetric Science* (B.A.O.).

The Candidate must lodge with the Registrar of the School of Physic his Certificate of attendance on Practical Midwifery. He must also produce his Certificates of attendance on Hospital, Fever, and Vaccination, unless these have been already produced.

The Candidate is then required to pass an Examination in the following subjects:—

Practice of Midwifery.
Gynæcology.
Obstetrical Anatomy.

Fee for the Degree of Bachelor in Obstetric Science, £1. There is no *Liceat* Fee.

Examinations will be held on Nov. 16, Feb. 8, May 31, and following days. Notice must be given to the Registrar of the School of Physic between Nov. 9 and 13; Feb. 1 and 5; May 24 and 28, respectively.

No Candidate will be allowed in for any Examination unless he has given notice within the days specified.

2.—*Bachelor in Surgery* (B.Ch.).

The Candidate must lodge with the Registrar of the School of

Physic his *Liceat* Fee and his Certificate of Attendance on a Course of Ophthalmic Surgery.

He must also produce his Certificates of attendance on Hospital, Fever, and Vaccination, unless these have been already produced.

The Candidate is then required to pass an Examination in the following Subjects:—

Clinical Surgery.
Operative Surgery (on the dead subject).
Surgery.
Surgical Anatomy.
Surgical Pathology.
Ophthalmic Surgery.

Fee for the *Liceat ad Examinandum*, £5.

Fee for the Degree of Bachelor in Surgery, £5.

Examinations will be held on Nov. 23, Feb. 15, June 8, and following days. Notice must be given to the Registrar of the School of Physic between November 16 and 20; Feb. 8 and 12; May 31 and June 4, respectively.

No Candidate will be allowed in for any Examination unless he has given notice within the days specified.

3.—*Bachelor in Medicine* (M.B.).

The Candidate must lodge with the Registrar of the School of Physic his *Liceat* Fee together with Certificates of Attendance on Hospital, Vaccination and Fever, unless these have been already produced.

The Candidate is then required to pass an Examination in the following subjects:—

Clinical Medicine.
Practice of Medicine.
Therapeutics.
Pathology.
Medical Anatomy.
Medical Jurisprudence and Hygiene.

Fee for the *Liceat ad Examinandum*, £5.

Fee for the Degree of Bachelor in Medicine, £11.

Examinations will be held on Nov. 30, Feb. 22, June 14, and following days. Notice must be given to the Registrar of the School of Physic between Nov. 23 and 27; Feb. 15 and 19; June 7 and 11, respectively.

No Candidate will be allowed in for any Examination unless he has given notice within the days specified.

4.—*Master in Obstetric Science.*

A Master in Obstetric Science must have passed the M.B. and B.Ch. Examinations and produce a Certificate of having attended a Summer Course in Obstetric Medicine and Surgery.[a]

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[a] Existing Graduates in Medicine of the standing of M.D. are not required to attend this Course.

He is then required to pass an Examination in the following subjects:—

1. Practice of Midwifery.
2. Gynæcology.
3. Anatomy of Female Pelvis & Elementary Embryology.
4. Clinical Gynæcology.

Fee for the Degree of Master in Obstetric Science, £5.

Notice should be given to the Registrar of the School of Physic a week before the first day of the Examination. The dates are the same as those for the B.A.O.

5.—*Master in Surgery.*

A Master in Surgery must be a Bachelor in Surgery of the University of Dublin, of not less than three years' standing, and must produce satisfactory evidence of having been engaged for not less than two years from the date of his Registration in the study or practice of his profession. He must then pass an Examination in the following subjects:—

1. Clinical Surgery.
2. Operative Surgery.
3. Surgical Pathology.
4. Surgery.
5. Surgical Anatomy (on the dead subject).

And one of the following optional subjects, viz:—

1. Surgery, in one of its recognised branches, viz:—
   Ophthalmic and Aural; Gynæcological; Dental.
2. Mental Disease.
3. Medical Jurisprudence and Hygiene.
4. Advanced Anatomy and Physiology.
5. Comparative Anatomy.

Graduates in Surgery of the University of Dublin, of not less than ten years' standing, may be recommended for the Degree of M.Ch., by the vote of the Court of Examiners, on such Examination as as they shall determine. Candidates claiming this privilege must give one month's notice to the Registrar of the School, and state in full their qualifications, and name the optional subject selected.

For the Degree of Master in Surgery, £11.

Notice should be given to the Registrar of the School of Physic a week before the Examination begins, the optional subject selected being named at the same time. The dates are the same as those for the B.Ch.

Surgeons of the Army Medical Department who take this Degree of M.Ch. will be considered qualified for advancement without passing any further Examination.

6.—*Doctor in Medicine.*

A Doctor in Medicine must be a Bachelor in Medicine of three years' standing, or have been qualified to take the Degree of Bachelor in Medicine for three years. He must also read a Thesis publicly before the Regius Professor of Physic, or must undergo an Examination before the Regius Professor of Physic, according to Regulations to be approved by the Provost and Senior Fellows. The Regius Professor as a rule appoints 12 o'clock on the day before Commencements for hearing Theses.

Commencements will be held on Dec. 18, March 2, April 24, June 25.

Fee for the Degree of Doctor in Medicine, £13.

UNIVERSITY DIPLOMAS.

Candidates for the Diplomas in Obstetric Science, Surgery, and Medicine, must be matriculated in Medicine, and must have completed two years in Arts, and five years in Medical Studies.

The dates, regulations, and subjects of Examination are the same as for the Degrees, except that it is not necessary to attend the Courses of Lectures in Botany and Zoology, or to pass the Previous Medical Examination in these subjects.

A Diplomate on completing his Course in Arts, and proceeding to the Degree of B.A. may become a Bachelor, by attending the Lectures on Botany, and Zoology, passing the Previous Medical Examination in those subjects, and paying the Degree Fees.

The *Liceat* fees are the same as for the Degrees. The fees for the Diplomas are—Obstetric Science £1, Surgery £5, Medicine £5.

Each Candidate who has completed the prescribed Courses of study and passed all the Examinations, will be entitled, if a Graduate in Arts, to have conferred on him the Degrees of M.B., B.Ch., B.A.O., on payment to the Senior Proctor of the Degree Fees amounting to £17. A corresponding regulation applies to the Diplomas, the Fees for which are £11. He will also obtain from the Senior Proctor a Diploma, entitling him to be entered on the Register of Medical Practitioners under the Medical Act, 1886.

REGULATIONS FOR STUDENTS WHO MATRICULATED SINCE 1891.

The following conditions must be fulfilled in order to qualify for the Degrees in Midwifery (B.A.O.), Surgery (B.Ch.), and Medicine (M.B.):—

I. The Student must be of B.A. standing, and his name must be for at least five (Academic) years on the Books of the Medical School, reckoned from the date of his Matriculation. He may carry on his Arts Course concurrently with his Medical Course, and he need not have taken his B.A. before presenting himself for his Final Medical Examination, but he cannot have the Medical Degrees conferred without the Arts Degree.

II. The following Courses must have been attended:—

[Note.—The Courses marked thus (*) must have been taken out before the Student can present himself for any part of the Final Examination. In addition, the Courses marked thus (†) must have been taken out before he can present himself for Section B; the Courses marked thus (‡) before he can present himself for Section C; and the Courses marked thus (§) before he can present himself for Sections D and E.

1. LECTURES.

WINTER COURSES.

*_Systematic Anatomy._
*_Practical Anatomy (with Dissections), 1st year._
*_Practical Anatomy (with Dissections), 2nd year._
*_Applied Anatomy (with Dissections)._
*_Chemistry._
†_Surgery._
*_Physiology (two Courses)._
†_Practice of Medicine._
‡_Midwifery._
†_Pathology._

SUMMER COURSES.

*_Practical Chemistry._
*_Practical Histology._
*_Botany._
*_Zoology._
†_Materia Medica and Therapeutics._
*_Medical Jurisprudence and Hygiene._
§_Operative Surgery._

TERM COURSES.

*_Physics._—Michaelmas, Hilary, and Trinity Terms.

§2. HOSPITAL ATTENDANCE.

1. Three Courses of nine months' attendance on the Clinical Lectures of Sir Patrick Dun's or other Metropolitan Hospital recognised by the Board of Trinity College.

Students who shall have diligently attended the practice of a recognised London or Edinburgh Hospital for one year, of a recognised County Infirmary, or of a recognised Colonial Hospital for two years previous to the commencement of their Metropolitan Medical Studies, may be allowed, on special application to the Board of Trinity College, to count the period so spent as equivalent to one year spent in a recognised Metropolitan Hospital.

*3. PRACTICAL VACCINATION.

One month's instruction in Practical Vaccination to be attended at the Vaccine Department, Local Government Board for Ireland, 45 Upper Sackville-street; No. 1 East Dispensary, 11 Emerald-street; or, until further notice at the Grand Canal-street Dispensary.

§4. MENTAL DISEASE.

A Certificate of attendance on a six months' course of Practical Study of Mental Disease in a recognised Institution.

‡5. PRACTICAL MIDWIFERY.

A Certificate of attendance on a six months' Course of Practical Midwifery with Clinical Lectures. including not less than thirty cases.

§6. OPHTHALMIC SURGERY.

A Certificate of attendance on a three months' Course of Ophthalmic Surgery.

III. The following Examinations must be passed:—

The Previous Medical or Half M.B. Examination.
The Final Examination.

The Previous Medical Examination must be passed in all its parts before any part of the Final can be entered for, except in the case of Candidates for Diplomas.

The Regulations and Dates for the Previous Medical Examination are the same as those specified on pages 337 and 338.

The Final Examination is arranged as follows:—

FIRST PART.

Section A.

Applied Anatomy (Medical and Surgical); paper.
Applied Physiology, *vivâ voce.*
Jurisprudence and Hygiene; paper and *vivâ voce.*

Section B.

Materia Medica and Therapeutics; paper and *vivâ voce.*
Medicine; paper and *vivâ voce.*
Surgery; paper and *vivâ voce.*
Pathology; paper and *vivâ voce.*

Section A may be passed in any part of the Fourth Year, provided the corresponding Curriculum shall have been completed; Section B not before Trinity Term of the Fourth Year.

Examinations for Section A will be held on Nov. 16, Feb. 8, May 31, and following days; for Section B on Nov. 23, Feb. 15, June 8, and following days. Notice must be given to the Registrar of the School of Physic, for Section A, between Nov. 9 and 13, Feb. 1 and 5, May 24 and 28, respectively; for Section B, between Nov. 16 and 20, Feb. 8 and 12, May 31 and June 4, respectively.

No Candidate will be allowed in for any Examination unless he has given notice within the days specified.

SECOND PART.

SECTION C.

Midwifery; paper and *vivâ voce.*
Gynæcology; paper and *vivâ voce.*
Obstetrical Anatomy; paper.

Examinations for Section C will be held on Nov. 16, Feb. 8, May 31, and following days. Notice must be given to the Registrar of the School of Physic between Nov. 9 and 13, and Feb. 1 and 5, May 24 and 28, respectively.

SECTION D.

Clinical Medicine.
Mental Disease.

Examinations for Section D will be held on Nov. 23, Feb. 15, June 8, and following days. Notice must be given to the Registrar of the School of Physic between Nov. 16 and 20, Feb. 8 and 12, May 31, and June 4, respectively.

SECTION E.

Clinical Surgery.
Operations.
Ophthalmic Surgery.

Examinations for Section E will be held on Nov. 30, Feb. 22, June 14, and following days. Notice must be given to the Registrar of the School of Physic between Nov. 23 and 27, Feb. 15 and 19, June 7 and 11, respectively.

One Section of the Second Part must be passed in Trinity Term of the Fifth Year, or subsequently. The other two may be passed in any Term of the Fifth Year, provided the corresponding Curriculum shall have been completed. Subject to this provision the Sections may be taken in any order.

Fee for the *Liceat ad Examinandum* £5, to be paid when the Candidate enters for the Section for which he first presents himself.

The Candidate must also produce Certificates of attendance at the Hospitals where the Courses prescribed for each Section are to be taken out.

No Candidate will be allowed in for any Examination unless he has given notice within the days specified.

QUALIFICATION IN STATE MEDICINE.

The Diploma in State Medicine is conferred, after examination, by the University of Dublin, upon Candidates fulfilling the following conditions:—

1. The Candidate must be a Doctor in Medicine, or Graduate in Medicine and Surgery, of Dublin, Oxford, or Cambridge.

2. The name of the Candidate must have been on the Medical Register at least twelve months before the Examination.

3. The Candidate must have completed, subsequent to Registration, six months' practical instruction, in a Laboratory approved by the University, and also have studied, practically, outdoor Sanitary work for six months, under an approved Officer of Health.

The Examination to be passed by the Candidate is prescribed as follows:—

EXAMINATION FOR DIPLOMA IN STATE MEDICINE.

STATE MEDICINE AND HYGIENE.—*Examination by Paper.*
Time, 2 hours.

CHEMISTRY.—*Examination by Paper, and in Laboratory.*
Time, 1½ hour each.

PHYSICS AND METEOROLOGY.—*Examination vivâ voce.*

ENGINEERING.—*Examination by Paper. Time, 1½ hour.*

SANITARY ENGINEERING.—*Practical Examination.*

MORBID ANATOMY.—*Examination vivâ voce.*

PRACTICAL BACTERIOLOGY.

EPIDEMIOLOGY AND WORK AND DUTIES OF A PUBLIC OFFICER OF HEALTH.

VITAL STATISTICS.—*Examination by Paper. Time, 1½ hour.*

MEDICAL JURISPRUDENCE.—*Examination vivâ voce.*

LAW.—*Examination by Paper. Time, 1½ hour.*

Candidates are required to send in their names to the Registrar of the School of Physic at least a week before the first day of Examination.

Candidates who have registered since January 1st, 1890, are required to apply to the Board of Trinity College for leave to present themselves a month before the Examination begins, and to submit at the same time Certificates of the required Courses of Study.

The Examination will begin on December 7th.

II.

Royal University of Ireland.

COURSES FOR DEGREES IN MEDICINE, SURGERY, AND OBSTETRICS.

General Regulations.

The Course for these Degrees shall be of at least five Medical years' duration reckoned from the completion of one Academical Year from the date of Matriculation; but Graduates in Arts or Science who shall have spent a year in the study of Physics, Chemistry and Biology, and have passed an Examination in these subjects for the Degrees in question, shall be held to have completed the first of the five years of Medical Study.

Students who commenced their Medical Studies after Jan. 1, 1892, must furnish evidence of having been registered by the Medical Council, as Students in Medicine, for at least 57 months, before being admitted to the M.B., B.Ch., and B.A.O. Degrees.

No one can be admitted to a Degree in Medicine who is not twenty-one years of age.

All Candidates for these Degrees, in addition to attending the lectures and complying with the other conditions to be from time to time prescribed, must pass the following Examinations:—

The Matriculation Examination.
The First University Examination.
The First Examination in Medicine.
The Second Examination in Medicine.
The Third Examination in Medicine.
The Examination for the M.B., B.Ch., B.A.O. Degrees.

The Course of Medical Studies shall be divided into five Periods of one Medical Year each.

When a Student has fully completed the Course of Medical Studies, prescribed for any year, he may proceed with the studies assigned to the year next following, without passing the corresponding examination.

There shall be an interval of at least one Academical Year between the passing of one examination and the being admitted to the examination next subsequent. But the Senate may, under special circumstances, allow a Candidate to present himself for his following examination within a less interval.

The Senate may, in the case of any Candidate who so desires, allow such Candidate to present himself for the Third Examination in Medicine, and for the Degree Examination at the same time, provided that an interval of three Academical years shall have elapsed from the time of passing the Second Examination in Medicine, and provided such Candidate shall have completed the entire course of studies, etc., prescribed for the five years of the Medical curriculum.

Candidates shall furnish proper Certificates of attendance at the several Courses of Medical Instruction prescribed for the different years of the curriculum.

No such certificate will be received unless it attests a *bonâ fide* attendance at three-fourths of the whole Course. *Students are reminded that certificates of attendance at Night Lectures will not be accepted.*

No Certificates of instruction in any of the Courses of Medical Studies, in connection with either Lectures or hospitals, can be received, unless issued by an Institution which has been formally recognised by the Senate.

The prescribed courses in Natural Philosophy, Chemistry, Biology, Anatomy and Physiology must be attended in Institutions provided with the appliances required for the performance by the Students of proper Experimental Courses and Practical Work in those subjects.

Where Certificates in a special department (Fever, Mental Diseases, Ophthalmology, &c.) are presented, they must be signed by the Physician or Surgeon in charge of such department.

MEDICAL CURRICULUM.

FIRST YEAR.

The First Year's course of Medical Studies consists of:—

- (*a.*) Natural Philosophy, taught experimentally:—
  - Either a Six Months' Course with Lectures (illustrated experimentally) on Three days in the week;
  - Or, a Three Months' Course with Lectures (illustrated experimentally) on at least Five days in the week.
- (*b.*) Chemistry, a Six Months' Systematic Course.
- (*c.*) Biology:—
  - Botany, a Three Months' Course, with Lectures and Demonstrations on at least Three days in the week.
  - Zoology, a Three Months' Course, with Lectures and Demonstrations on at least Three days in the week.

(*d.*) Anatomy, a Six Months' Systematic Course (Optional).

(*e.*) Practical Anatomy (Dissections), a Six Months' Course (Optional).

The Systematic Course in Anatomy and Dissections should enable the Student to acquire a good knowledge of the bones, joints, and muscles, and such knowledge of the vessels and viscera and of the larger nerves, as he may reasonably be supposed to have acquired at this period of his Medical Studies.

(*f.*) Practical Chemistry, a Three Months' Course (Optional).

This attendance must not be simultaneous with attendance at the Systematic Course.

SECOND YEAR.

The studies assigned to the Second Year must not be entered upon until the completion of such a course assigned to the First Year; that is, until the completion of the course of study which would qualify a candidate for admission to the First Examination in Medicine.

The Second Year's course of Medical Studies consists of:—

(*a.*) Anatomy, a Six Months' Systematic Course; (*b.*) Practical Anatomy (Dissections), a Six Months' Course;	If not attended during the First Year.

Students who in the First Year have attended the courses of Anatomy prescribed for the Second Year, may in the Second Year attend the course of Anatomy prescribed for the Third Year.

(*c.*) Practical Chemistry, a Three Months' Course (if not attended during First Year).

(*d.*) Physiology, a Six Months' Systematic Course.

The Systematic Course in Physiology should enable the Student to acquire a good knowledge of Physiological Chemistry, and of the following:—Development of tissues; the Physiology of muscle, nerve-fibres, and nerve cells (but not of the brain and spinal cord); also, the Physiology of blood, lymph, and lymphoid organs, digestion, circulation, respiration, animal heat, secretion and excretion (including the functions of the skin and kidneys). The advanced portions of the subject, *e.g.*, Embryology, the Histology and Physiology of the central nervous system and of the organs of special sense, of voice, and of reproduction—are comprised in the Advanced Systematic Course of Physiology prescribed for the Third Year.

(*e*.) Materia Medica, Pharmacology and Therapeutics, a Three Months' Course (Optional). This subject may be studied in either the Second or Third Year of Medical Studies; but it will be included in the subjects of the Third Examination in Medicine.

(*f*.) Practical Physiology and Histology (Optional). A Three Months' Laboratory Course, of at least two hours three times a week. One-third, at least of the time shall be devoted to Practical Physiology, and this shall be stated explicitly in the certificate or certificates of attendance. This Course may be taken either in the Second or in the Third Year.

(*g*.) Hospital Attendance.

Attendance during a *Winter* Session of Six Months, and a *Summer* Session of Three Months at a Medico-Chirurgical Hospital recognised by the University, and at the Clinical Lectures delivered therein.

THIRD YEAR.

No certificate of attendance at instruction in any of the branches of study assigned to the Third Year will be accepted, where such attendance appears to have taken place prior to the completion of the Second Year of Medical Studies, except as herein provided.

The Third Year's Course of Medical Studies consists of—

(*a*.) Anatomy, a Six Months' Advanced Systematic Course;
(*b*.) Practical Anatomy (Dissections), a Six Months' Course;
} If not attended during the Second Year.

The Course of Advanced Systematic Anatomy should be such as to enable Students to perfect their knowledge of the branches of Anatomy prescribed for the Second Examination in Medicine, and also of the whole nervous system and the organs of sense.

(*c*.) Physiology. A Six Months' Advanced Systematic Course.

The Course of Physiology must be distinct from the Course in the Second Year of Medical Studies. It shall deal expressly with those parts of the subject which are not prescribed for the Second Year's Course, and shall comprise Embryology, the Histology and Physiology of the central nervous system, and of the organs of special sense, of voice, and of reproduction.

(*d*.) Practical Physiology and Histology (if not attended during the Second Year).

(*e*.) Any *two* of the following:—

(i.) Medicine, a Six Months' Course.

(ii.) Surgery, a Six Months' Course.

(iii.) Midwifery, and Diseases of Women and Children. This may be attended either as one complete course, of at least six months, embracing both branches of the subject, or as two courses of three months each, one in Midwifery, the other in Diseases of Women and Children. These two courses must not be simultaneous.

(*f*.) Materia Medica, Pharmacology and Therapeutics, a Three Months' Course (if not attended during Second Year).

(*g*.) Practical Pharmacy.[*]

A Three Months' Course given in a recognised School in a properly equipped Laboratory by a duly appointed Lecturer on Pharmacy. (This Course may be attended before, at the same time as, or after that on Materia Medica, but must be attended in the Third Year).

(*h*.) Hospital Attendance.

Attendance during a *Winter* Session of Six Months, and *Summer* Session of Three Months at a General Hospital recognised by the University and at the Clinical Lectures delivered therein.

Any of the following attendances may take place at any time during the Third, Fourth, or Fifth years:—

(*i*.) Fever Hospital.

Attendance during a period of *Three* consecutive months at a Fever Hospital of repute, or in the Fever Wards of a General Hospital. If the attendance takes place during a regular Winter or Summer Session, it may be reckoned as a portion of the prescribed total Hospital attendance of thirty-three months.

But neither attendance at a Fever Hospital, nor the "Personal charge" of Fever cases, can be recognised, where it takes place prior to attendance at the course of Lectures on Theory and Practice of Medicine.

(*j*.) Attendance on at least six *Post-mortem* Examinations.

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[*] All candidates must lodge certificates of having attended this course in accordance with these regulations.

(*k.*) Attendance for at least three consecutive months in a General Hospital as Clinical Clerk, and three consecutive months as Dresser; such attendance not to be simultaneous.

FOURTH YEAR.

No certificate of attendance at instruction in any of the branches of study assigned to the Fourth Year will be accepted, where such attendance appears to have taken place prior to the completion of the Third Year of Medical Studies, except as herein provided.

The Fourth Year's Course comprises the following subjects at least:—

(*a.*) Such of the following as may not have been attended during the Third year of Medical Studies:—

- (i.) Medicine, a Six Months' Course.
- (ii.) Surgery, a Six Months' Course.
- (iii.) Midwifery, and Diseases of Women and Children, a Six Months' Course.

(*b.*) Operative Surgery.

The course of instruction must be given in a recognised Medical School by a duly appointed Lecturer in Surgery. The Certificate of attendance must show that the Candidate has attended at least three-fourths of the whole period of the Course, such attendances not to be under any circumstances less than on twenty-four distinct days; and that the Candidate himself has, during such Course, performed at least four major operations on the dead subject under the direction of the Lecturer.

Printed Forms of this Certificate may be had on application.

(*c.*) Medical Jurisprudence, a Three Months' Course.

(*d.*) Pathology, a Three Months' Systematic Course of at least two lectures per week in a recognised Medical School.

Practical Pathology, a Three Months' Laboratory Course of at least three days per week in a recognised Medical School.

These Courses may be taken simultaneously.

(*e.*) Ophthalmology and Otology, a Three Months' Systematic Course in a recognised Medical School.

(*f.*) Hospital attendance.

Attendance during a *Winter* Session of Six Months and *Summer* Session of Three Months at a General Hospital recognised by the University and at the Clinical Lectures delivered therein.

If not attended during the Third Year.

(*g*.) Fever Hospital.

Attendance during a period of *Three* consecutive months at a Fever Hospital of repute, or in the Fever Wards of a General Hospital.

(*h*.) Attendance on at least six *Post-mortem* Examinations.

(*i*.) Attendance for at least three months in a General Hospital as Clinical Clerk, and three months as Dresser; such attendances not to be simultaneous.

FOURTH AND FIFTH YEARS.

Attendance on the remaining parts of the Medical Curriculum may take place during either the Fourth or the Fifth Year. These parts are—

(*a*.) Sanitary Science.

A Three Months' Systematic Course including Laboratory work, in a recognised school.

The following are the particulars of this Course:—

An elementary knowledge of—

Air.—Composition of Air; Impurities in Air; Effects of Impurities.

Ventilation.—Amount of fresh Air required; Cubic space; Natural Ventilation; Artificial Ventilation; Sufficiency of Ventilation.

Water.—Examination of Water; its properties and composition; Impurities; Effects of Impurities; Water Supply; Purification of Water.

Food and Dieting.—General Principles of Diet; Diseases connected with Food; Quality, Choice and Cooking of Food.

Removal and Disposal of Sewage.

Habitations and Hospitals.—Construction, Warming, Lighting.

Soils and Sites.

Clothing and Exercise.

Disposal of the Dead.

Disinfection and Deodorisation.

Climate and Meteorology.

Causation and Prevention of Disease.

Duties of Medical Officers of Health.

The More Important Sanitary Acts.

The Elements of Statistics.

(*b.*) Mental Diseases.

A Three Months' Course in a recognised Institution where Clinical Instruction on Mental Diseases is given.

(*c.*) Practical Midwifery.

Attendance for a period of six months at a recognised Midwifery Hospital containing not less than fifteen beds in regular occupation where Clinical Instruction in Midwifery and Diseases of Women and Children is given, or for six months' at a Midwifery Dispensary, recognised by the Senate, where similar Clinical Instruction is given. During this period the Candidate is required to attend at least *twenty* Labours, of *ten* of which at least he must have had personal charge.

(*d.*) Ophthalmology and Otology. Attendance for a period of three months at a recognised Hospital, having at least ten beds devoted to diseases of the Eye and Ear.

If not already attended:—

(*e.*) Fever Hospital.

Attendance during a period of *Three* consecutive Months at a Fever Hospital of repute, or in the Fever Wards of a General Hospital.

(*f.*) Attendance on at least six complete *Post-mortem* Examinations.

(*g.*) Attendance for at least three months in a General Hospital as Clinical Clerk, and three months as Dresser; such attendances not to be simultaneous.

(*h.*) Personal charge of at least ten Fever cases.

Printed Forms of all Certificates of Personal Charge of Cases may be had on application.

N.B.—The expression *Personal Charge* implies that the student fulfils towards the case the duties commonly assigned to a Clinical Clerk.

Attendance in a Fever Hospital, or on Fever Cases, must not take place during the period of attendance on Practical Midwifery and Gynæcology.

(*i.*) Vaccination.

A short course of practical instruction under a Public Vaccinator.

Printed Forms of this Certificate may be had on application.

FIFTH YEAR.

Hospital Attendance. Attendance during a *Winter* Session of Six Months at a recognised General Hospital, and at the Clinical Lectures delivered therein.

THE EXAMINATION FOR THE M.B., B.CH., B.A.O. DEGREES.

Candidates may present themselves for this Examination after an interval of such period, not being less than one Academical Year from the time of passing the Third Examination in Medicine, as the Senate may from time to time prescribe, provided they shall have completed the entire Medical Curriculum.

Candidates must give notice in writing to the Secretaries, of their intention to present themselves, and must pay the prescribed fee of £2, at least one month before the Examination, and must produce such Certificates as will show that the Candidates have completed the full course of studies prescribed for these Degrees.

This Examination consists of three parts:—

(*a.*) Medicine, Theoretical and Clinical, including Therapeutics, Mental Diseases, Medical Jurisprudence, Sanitary Science, and Medical Pathology.

(*b.*) Surgery, Theoretical, Clinical, and Operative, including the use of Instruments and appliances; Surgical Anatomy; Ophthalmology and Otology,* Surgical Pathology.

(*c.*) Midwifery and Diseases of Women and Children.

All Candidates must enter for and go through the entire Examination, but a Candidate may be adjudged to have passed in any of the foregoing parts in which he satisfies the Examiners.

Upon completing satisfactorily his Examination in all three divisions, the Candidate will receive, in addition to the parchment Diplomas recording his admission to the M.B., B.CH., B.A.O. Degrees, a Certificate of having passed a Qualifying Examination in the subjects of Medicine, Surgery, and Midwifery.

The fee for this Certificate is *Ten Pounds*, which must be paid before admission to these Degrees.

DIPLOMA IN SANITARY SCIENCE.

This Diploma shall be conferred only on Graduates in Medicine of the University.

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* Candidates at this Examination will be required to exhibit reasonable proficiency in the use of the Ophthalmoscope and Laryngoscope.

Candidates may present themselves for this Examination after an interval of twelve months from the time of obtaining the M.B., B.Ch., B.A.O. Degrees.

Candidates must give notice in writing to the Secretaries of their intention to present themselves, and must pay the prescribed fee of £2 at least one month before the examination.

Every Candidate must, when entering for the Examination, produce:—[a]

(*a*.) A Certificate of having, *after obtaining the M.B., B.Ch., B.A.O. Degrees*, attended during a period of six months Practical Instruction in a Laboratory approved by the University. The nature of this course is fully indicated by the detailed Syllabus of the Examinations in Physics, Climatology, Chemistry, Microscopy, Bacteriology &c. An Institution applying to be recognised as fulfilling the conditions of the Regulations in regard to the course of Practical Instruction in a Laboratory, shall be required to include in the instruction given in such Institution the various subjects set forth in this Syllabus.

(*b*.) A Certificate of having, *after obtaining the M.B., B.Ch., B.A.O. Degrees*, for six months practically studied the duties of out-door Sanitary work under the Medical Officer of Health of a County or large Urban District.

The Subjects of this Examination are:—

Physics;
Climatology;
Chemistry;
Microscopy;
Bacteriology;
Geology;
Sanitary Engineering;
Hygiene, Sanitary Law, and Vital Statistics.

On satisfying the Examiners the Candidate must pay a further fee of £3 before the Diploma can be granted to him.

The Candidate must draw up reports on the Sanitary condition of Dwelling Houses, or other buildings selected for the purpose.

N.B.—Proficiency in practical work and an adequate acquaintance with the instruments and methods of research which may be employed for Hygienic investigations are indispensable conditions of passing the Examination.

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[a] These rules (*a*), (*b*), shall not apply to Medical Practitioners registered or entitled to be registered on or before Jan. 1, 1890.

DIPLOMA IN MENTAL DISEASES.

This Diploma shall be conferred only on Graduates in Medicine of the University.

Candidates must give notice in writing to the Secretaries of their intention to present themselves, and must pay the prescribed fee of £2, at least one month before the Examination.

Each Candidate who satisfies the Examiners must pay a further fee of £3 before the diploma can be granted to him.

The subjects for this Examination are those prescribed for the Dr. Henry Hutchinson Stewart Scholarship for proficiency in the treatment of Mental Diseases.

BELFAST.

QUEEN'S COLLEGE.

Clinical instruction is given at the Belfast Royal Hospital. The Ulster Hospital for Diseases of Women and Children, the Belfast Maternity Hospital, the Belfast Ophthalmic Hospital, the Ulster Eye, Ear, and Throat Hospital, the Belfast District Lunatic Asylum, and the Belfast Hospital for Sick Children are open to students.

A pamphlet containing full information can be had free on application to the Registrar, Queen's College, Belfast, or from Dr. R. L. M'Kisack, Secretary, Medical Staff, Royal Hospital.

CORK.

QUEEN'S COLLEGE.

Clinical instruction is given at the North and South Infirmaries (each 100 beds). Students also can attend the Mercy Hospital (60 beds), the Cork Union Hospital, the County and City of Cork Lying-in-Hospital, the Maternity, the Hospital for Diseases of Women and Children, the Fever Hospital, the Ophthalmic and Aural Hospital, and the Eglinton Lunatic Asylum. The session at Queen's College extends from October to April inclusive (thirty weeks), but the hospitals are open to students in May, June, and July, also, and arrangements have been made for the delivery of some of the three months' Courses of lectures during the months of April, May and June.

GALWAY.

QUEEN'S COLLEGE.

Clinical instruction is given at the Galway County Infirmary and the Galway Town Hospital.

Prizes.—Attached are eight scholarships of the value of £25 each. The Council may award Exhibitions to matriculated students at the examinations for junior scholarship. All scholarships and exhibitions of the second, third, and fourth years may be competed for by students who have attained the requisite standing in any medical school recognised by the College Council, and have passed the Matriculation Examination in the College, or in the Royal University of Ireland.

III.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS, IRELAND.

OUTLINE MEDICAL COURSE APPLICABLE TO CANDIDATES FOR THE LICENCES OF THE ROYAL COLLEGES.

These Regulations apply to Candidates commencing Medical Study after 1st January, 1892.

1. Enter for and pass the Preliminary Examination.

The Subjects are as follows:—

Fee £2 2s. (Matriculated Pupils, R.C.S., £1 1s. See note, page 360.)	(*a*) ENGLISH LANGUAGE, including Grammar and Composition. (*b*) LATIN, including Grammar, Translation from specified authors, and Translation of easy passages not taken from such authors. (*c*) MATHEMATICS, comprising—(*a*) Arithmetic, (*b*) Algebra, including simple Equations, (*c*) Geometry, the subject matter of Euclid, Books, i. ii. and iii., with easy deductions. (*d*) ONE OF THE FOLLOWING OPTIONAL SUBJECTS: (*a*) Greek; (*b*) any Modern Language; (*c*) Logic.

And at once—

2. Register as a Medical Student on a form obtainable at the Royal College of Surgeons from the Registrar. No Fee.

3. Enter for and attend Courses for the First Professional Examination.	Winter six months	Dissections ...	£5	5
		Chemistry ...	3	3
		Physics ...	3	3
	Summer three months	Practical Chemistry	5	5
		Pharmacy ...	3	3
		Biology ...	3	3
			£23	2

4. Enter for and pass the First Professional Examination.

	SUBJECTS OF EXAMINATION.
Fee, £15 15s. (Matriculated Pupils, R.S.C., £10 10s. See note, page 360).	1. (*a*) CHEMISTRY; (*b*) PHYSICS. 2. PRACTICAL PHARMACY. 3. ELEMENTARY BIOLOGY. 4. ANATOMY, viz.—Bones, with attachments of muscles and ligaments—Joints.

Candidates may take this Examination as a whole at one time, or in four parts, but no portion earlier than the end of the first Winter Session.

			£	s.
5. Enter for and attend Courses for the Second Professional Examination.	Winter six months	Hospital (9 months)	£12	12
		Anatomy ...	3	3
		Dissections ...	5	5
		Physiology ...	3	3
	Summer three months	Histology ...	5	5
		Materia Medica ...	3	3
			£32	11

Materia Medica may be deferred to the Third Year.

6. Enter for and pass the Second Professional Examination.

	SUBJECTS OF EXAMINATION.
Fee, £10 10s.	1. ANATOMY.—The Anatomy of the whole Human Body. 2. HISTOLOGY. 3. HUMAN PHYSIOLOGY } if not deferred. 4. MATERIA MEDICA } if not deferred.

The Candidate must present himself, in the first instance at least, in Anatomy and Histology; if he pass in either of these subjects, he may, at the discretion of the Examiners, get credit therefor. Physiology and Materia Medica may, at the option of the Candidate, be passed at the end of the second or during the third year.

☞ The Lectures on Physiology must be attended before admission to *any part* of the Second Professional Examination.

			£	s.
7. Enter for and attend Courses for the Third Professional Examination.	Winter six months	Hospital (18 months*)	£25	4
		Dissections ...	5	5
		Medicine ...	3	3
		Surgery ...	3	3
		Midwifery ...	3	3
		Pathology ...	3	3
	Summer three months	Operative Surgery ...	5	5
		Public Health and Forensic Medicine	3	3
			£51	9

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[*] In addition to that attended in the Second Year, with evidence of attendance in Fever Wards.

8. Enter for and pass the Third Professional Examination.[a]

SUBJECTS OF EXAMINATION.

Fee, £9 9s.

1. MEDICINE.
2. SURGERY.
3. PATHOLOGY.
4. THERAPEUTICS.
5. PUBLIC HEALTH AND FORENSIC MEDICINE.

A Candidate must present himself, in the first instance at least, in Medicine, Surgery, and Pathology. Should he pass in either Medicine or Surgery, he shall get credit therefor, even if he has failed in other parts of the Examination.

9. Enter for and attend Courses for the Final Examination.

	£	s.
Maternity Hospital,[b] £6 6s., £8 8s., or ...	£10	10
Ophthalmic Certificate ...	3	3
Vaccination [b] ...	1	1
Clinical Instruction in Mental Diseases [b] ...	3	3
	£17	17

10. Enter for and pass the Final Examination.

SUBJECTS OF EXAMINATION.

Fee, £6 6s.

1. MEDICINE, including MEDICAL ANATOMY and MENTAL DISEASES.
2. SURGERY.
3. OPERATIVE SURGERY and SURGICAL ANATOMY.
4. OPHTHALMIC and AURAL SURGERY.
5. MIDWIFERY, including DISEASES OF WOMEN and NEW-BORN CHILDREN, and the THEORY and PRACTICE OF VACCINATION.

Candidates are not admissible to the Final Examination earlier than the end of the Fifth Year of Medical Study.

Candidates may enter for and pass separately in Medicine, Surgery, and Midwifery.

Colonial Candidates who have taken out a portion of the Course, or have passed Examinations in Australia and elsewhere, have been accorded certain exemptions, which may be learned on application to the Secretary of the Committee of Management.

MARKING.

(*a*) A numerical system of marks, ranging from 0 to 10, is now in use.

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[a] This examination cannot be taken earlier than the end of the Fourth Winter Session.

[b] May be taken in the Fourth Year.

(*b*.) A uniform standard of 50 per cent. is the passing mark in all subjects, and in all examinations.

(*c*.) In deciding as to whether a candidate has passed in any subject or not, the marks in all the divisions of the subject—written, oral, and practical—are considered together; provided, however, that bad answering in the clinical portion shall not be compensated for by excellence in the other portions of the subject.

EXEMPTIONS.

The analogous Examinations of the various Medical Licensing Bodies are, as a rule, accepted by the Conjoint Board as equivalent to the First, Second, and Third Professional Examinations; but credit will not, save in special cases, be given for separate subjects in which the Candidate has passed elsewhere.

The Entrance Examinations of the Universities, Intermediate Examinations, and Examinations of the College of Preceptors, or other Examinations in General Education recognised by the General Medical Council, are accepted in lieu of the Preliminary Examinations of the Colleges.

Lists of the Examinations which have been already accepted, and the value attached to them, are given in the Conjoint Regulations.

Candidates are referred for detailed information to the Official Regulations published by the Colleges.

MATRICULATION AS PUPIL OF THE ROYAL COLLEGE OF SURGEONS.

All persons proceeding to the study of Medicine may, if approved by the Council, become matriculated pupils of the College on payment of five guineas, and having done so, will enjoy the following privileges:—

1. They will, if matriculated before the preliminary examination, be admitted on payment of £1 1s. (half fee).
2. They will be permitted to study in the Library and Museums of the College.
3. Their fee for the First Professional Examination will be reduced by £5 5s.

DATES OF CONJOINT EXAMINATIONS.

Preliminary - - -	March and September.
Professional - - -	April, July, and October.

Fees for Courses of Study payable in the Dublin Schools and Hospitals for the Conjoint Examinations of the Royal Colleges of Physicians and Surgeons, Ireland:—

	£	s.
Three Courses Demonstrations and Dissections at £5 5s.	15	15
One Course Anatomical Lectures	3	3
„ „ Lectures on Physiology	3	3
„ „ Surgery	3	3
„ „ Theoretical Chemistry	3	3
„ „ Materia Medica	3	3
„ „ Practice of Medicine	3	3
„ „ Midwifery	3	3
„ „ Pathology	3	3
„ „ Physics	3	3
„ „ Practical Histology	5	5
„ „ Operative Surgery	5	5
„ „ Practical Chemistry	5	5
„ „ Public Health and Forensic Medicine	3	3
„ „ Practical Pharmacy	3	3
„ „ Biology	3	3
Total Fees for Lectures	£69	6
Fees for 27 months' Medico-Chirurgical Hospital attendance	37	16
Six months' Midwifery Hospital £6 6s., £8 8s, or	10	10
Three months' Ophthalmic Hospital	3	3
Three months' Mental Diseases	3	3
Vaccination	1	1
Total	£124	19

EXAMINATION FEES.

	For L.& L.M., R.C.P.I., and L. and L.M., R.C.S.I.		
First Professional Examination	£15	15	0
Second Professional Examination	10	10	0
Third Professional Examination	9	9	0
Final Professional Examination	6	6	0
Total	£42	0	0

We are indebted to the *Lancet*, Sept. 5, 1896, for the following Table, which we have revised and corrected in some minor points:—

Tabular List of the Classes, Lecturers, and Fees at

Lectures, &c.	Dublin University	Dublin. R. C. of Surgeons		Dublin. Catholic University	
	Lecturers	Lecturers	Fees	Lecturers	Fees
Histology and Physiology	..	Prof. Scott	Course, £3 3s., in all Classes, ex. Descr. Anat. (£5 5s.), Oper. Surg. (£5 5s.), Pract. Chem. (£5 5s) Pract. Histology (£5 5s.)	Dr. Coppinger and Dr. Coffey †	£3 3s. each Course, except Dissections, Pract. Chem., Oper. Surg., Histology, and Pub. Health, which are £5 5s. each.
Anatomy, Descriptive and Surgical	Dr. Cunningham Mr. A. F. Dixon	Profs. Fraser and Nixon		Dr. Birmingham	
Practical Anatomy and Dissections	Dr. Cunningham Mr. A. F. Dixon	Profs. Fraser and Nixon		Dr. Birmingham,† assisted by Drs. Fagan and Dempsey	
Chemistry - - -	Dr. Reynolds	Profs. Sir C. Cameron and Lapper		Dr. Campbell, assisted by Dr. Frengley*	
Practical Chemistry	Dr. Reynolds				
Materia Medica and Pharmacy	Dr. W. G. Smith	Prof. Duffey		Dr. Quinlan*	
Botany and Zoology -	Dr. Wright Prof. Mackintosh	Profs Minchin and Cosgrave §		Dr. Sigerson † and Mr. Blaney	
Institutes of Medicine and Pathology	Dr. Purser	Prof. Myles		Dr. McWeeney	
Natural Philosophy -	Prof. FitzGerald	..		Prof. Stewart †	
Hospital Practice -	Sir P. Dun's or other Dublin Hospital	The various Dublin Hospitals		The various Dublin Hospitals	
Clinical Lectures -	..	..		..	
Surgery - - -	Dr. E. H. Bennett	Profs. Sir W. Stokes and W. Stoker		Mr. P. J. Hayes and Mr. McArdle	
Operative Surgery -	..				
Midwifery, &c. - -	Dr. A. V. Macan	Prof. S. R. Mason		Dr. A. J. Smith	
Medicine - - -	Dr. Finny	Prof. J. W. Moore		Sir C. J. Nixon	
Medical Jurisprudence -	Dr Bewley	Prof. Auchinleck		Mr. Roche	
Comparative Anatomy -	Prof. Mackintosh	..		Dr. Sigerson and Mr. Blaney †	
Practical Pharmacy -	Dr. W. G. Smith	Prof. Duffey		Dr. Quinlan	
Logic - - -	The College Tutors	..		.. [*Medical Registrar*: Dr. Birmingham]	
Physics - - -	..	Prof. Lapper		Prof. Stewart†	
Pathology - - -	Mr O'Sullivan	Prof. Myles		Dr. McWeeney	
Ophthalmology and Otology	..	Profs. Jacob, Fitzgerald, and Story		Dr. Werner	
Hygiene - - -	Dr. Bewley	Sir Charles Cameron		Mr. Roche	

* In Summer.

† In Winter and in Summer

al Schools of Ireland for the Session 1896–97.

BELFAST QUEEN'S COLLEGE Lecturers	Fees First Course	**CORK QUEEN'S COLLEGE** Lecturers	Fees First Course	**GALWAY QUEEN'S COLLEGE** Lecturers	Fees First Course
	£ s.		£ s.		£ s.
W. H. Thompson	3 0	Dr. J. J. Charles	3 0	Dr. Pye	3 0
r. J. Symington	2 0		..	Dr. Pye	2 0
r. Symington and Demonstrators	3 0	Dr. Charles and Demonstrators	3 0	Dr. Pye and Demonstrators.	3 0
Dr. Letts	2 0	Dr. Augustus E. Dixon	2 0	Dr. Senier	2 0
Dr. Letts†	3 0	Dr. Augustus E. Dixon	3 0	Dr. Senier	3 0
Dr. W. Whitla	2 0	Dr. C. Y. Pearson	2 0	Dr. Colohan	2 0
R. O. Cunningham‡	2 0	Professor Hartog	2 0 each	Dr. R. J. Anderson	2 0
..	..	..	..	Dr. Lynham	2 0
Dr. J. D. Everett	2 0	Mr. William Bergin	2 0	Professor Anderson	2 0
lfast Royal and other Hospitals	..	North and South Infirmaries	..	Galway Hospital, Galway Union Hospital, and Galway Fever Hospital	Sess. 5 0
..	..	..	..	Drs. Kinkead, Pye, Brereton, Colohan, and Lynham	..
Dr. Sinclair	2 0	Dr. S. O'Sullivan	2 0	Dr. W. Brereton	2 0
Dr. Sinclair*	2 0	Dr. S. O'Sullivan	2 0	..	..
Dr. J. W. Byers	2 0	Dr. Corby	2 0	Dr. Kinkead	2 0
Dr. Cuming	2 0	Dr E. R. Townsend	2 0	Dr. Lynham	2 0
Dr. Hodges	2 0	Dr. C. Yelverton Pearson	2 0	Dr. Senier Dr. Kinkead	2 0
..	..	..	..	[*Modern Languages:* Professor Steinberger]	..
Dr. V. G. L. Fielden	2 0	..	..	..	2 0
Professor J. Park	2 0	Professor Stokes	1 0	Dr. T. W. Moffett	2 0
..	..	..	..	..	..
Dr. J. Lorrain Smith	2 0	Dr. Cotter	2 0	Dr. Lynham	2 0
Dr W. A. M'Keown	2 0	Dr. Sandford	..	..	..
Dr. E. A. Letts and Dr Henry Whitaker	2 0	Dr. Donovan	..	..	..

‡ Zoology in Winter; Botany in Summer.

§ Including Biology.

REGULATIONS FOR CANDIDATES FOR THE CONJOINT DIPLOMA IN STATE MEDICINE.

The following regulations are compulsory on all Candidates beginning the study of Sanitary Science after January 1st, 1894; the date of commencement of study being fixed by the date of the certificates.

Stated Examinations for the Diploma in State Medicine commence on the first Tuesday of the months of February, May, and November, and occupy four days.

A special Examination for the Diploma can be obtained—except in the months of August and September—on payment of £5 5s., in addition to the ordinary Fees mentioned below, and on giving notice at least one fortnight before the date of the proposed Examination.

Every Candidate for the Diploma in State Medicine must be a Registered Medical Practitioner. He must return his name to the Secretary of the Committee of Management under the Conjoint Scheme, Royal College of Physicians, Dublin, three weeks before the Examination, and lodge with him a Testimonial of Character from a Fellow of either of the Colleges, or of the Royal Colleges of Physicians or Surgeons of London or Edinburgh, together with certificates of study as hereinafter set forth.

Candidates registered as Medical Practitioners or entitled to be so registered after 1st January, 1890, must comply with the following Resolutions passed by the General Medical Council on December 1st, 1893, in regard to Diplomas in State Medicine:—

"(*a*) This Council, having regard to the terms of Section 18 of the Local Government Act, 1888, and observing that under that section special privilege is to be accorded to the holders of the Diplomas granted under Section 21 of the Medical Act (1886), and therein described as Diplomas in Sanitary Science, Public Health, or State Medicine, thinks it essential to declare, with regard to its own future action under Section 21 of the Medical Act (1886), that it will not consider Diplomas to 'deserve recognition in the *Medical Register*' unless they have been granted under such conditions of education and examination as to insure (in the judgment of the Council) the possession of a distinctively high proficiency, scientific and practical, in all the branches of study which concern the Public Health; and that the Council, in forming its judgment on the conditions of education and examination, will expect the following rules to have been observed:—

"(*b*) A period of not less than twelve months shall elapse between the attainment of a first registrable qualification in Medicine, Surgery, and Midwifery, and the admission of the Candidate to any examination, or any part thereof, for a Diploma in Sanitary Science, Public Health, or State Medicine.

"(*c*) Every Candidate shall have produced evidence of having, after obtaining a registrable qualification, attended during six months' practical instruction in a Laboratory or Laboratories, British or Foreign, approved by the Body granting the Diploma, in which Chemistry, Bacteriology, and the Pathology of the Diseases of Animals transmissible to Man are taught.

"(*d*) Every Candidate shall have produced evidence that, during a period of six months after obtaining a registrable Qualification, he has either practically studied the duties of outdoor sanitary work, under the Medical Officer of Health of a County or large Urban District, or else has himself held an appointment as Medical Officer of Health under conditions not requiring the possession of a Special Sanitary Diploma. The Certificate of an Assistant Officer of Health of a County or a large Urban District may be accepted, provided the Medical Officer of Health of the County or District consents to the Assistant Officer giving such instruction.

"(*e*.) Every Candidate shall have produced evidence that he has attended the Clinical Practice of a Hospital for Infectious Diseases recognised by one of the Licensing Bodies; provided that such a course of instruction may have been taken as part of the Curriculum, for his registrable Qualification in Medicine, Surgery, and Midwifery.

"(*f*) The Examination shall have been conducted by Examiners specially qualified; it shall have extended over not less than four days, one of which shall have been devoted to practical work in a Laboratory, and one to practical examination in, and reporting on, subjects which fall within the special outdoor duties of a Medical Officer of Health."

⁂ The *Rules* as to study shall not apply to—

"(*a*) Medical Practitioners registered, or entitled to be registered, on or before January 1, 1890:

"(*β*) Registered Medical Practitioners who have for a period of three years held the position of Medical Officer of Health of any County, or to any Urban District of more than 20,000 inhabitants, or to any entire Rural Sanitary District."

These *Rules* shall apply to all Diplomas granted after January 1, 1894, provided that the *Rules* passed by the Council on June 1, 1889, and November 25th, 1890, shall continue to apply to Candidates who had commenced special study in Sanitary Science prior to January 1, 1894.

⁂ The Executive Committee [of the General Medical Council] has power, in special cases, to admit exceptions to the Rules for the Registration of Diplomas in Sanitary Science, and report the same to the General Council.

The Fee for the Examination is Ten Guineas, which must be lodged in the Ulster Bank, Dublin, to the credit of the Committee of Management, at least two weeks before the date fixed for the Examination. Fees are not returned to any Candidate who withdraws from, or is rejected at, any Examination. The Fee for re-examination is Five Guineas.

The Examination for the Diploma in State Medicine comprises the following subjects:—State Medicine and Hygiene, Chemistry, Meteorology, and Climatology, Engineering, Morbid Anatomy, Vital Statistics, Medical Jurisprudence, Law.

DENTAL EDUCATION AND EXAMINATIONS IN IRELAND.[*]

The Royal College of Surgeons in Ireland grants Diplomas in Dental Surgery under conditions of which the following is a synopsis:—

The Candidate must be twenty-one years of age.

The Candidate must have passed three Examinations.

1. Preliminary (identical with the Medical Preliminary).
2. Primary Dental. Fee, £10 10s. (This Examination is much the same as the Second Conjoint Professional.)
3. Final Dental Examination. Fee, £10 10s. Candidates are examined in Dental Surgery and Pathology, and in Mechanical Dentistry and Practical Metallurgy.

   Candidates are required to do gold fillings, and construct mechanical work in the presence of the Examiners.

The Certificate required may be divided into General and Special.

1. The General Certificates required are about the same as those required by the Medical Student for the Second Conjoint Professional Examination.

The Special Certificates may be subdivided into—

1. Dental Hospital. 2. Practical Mechanical Dentistry.
   1. Dental Hospital. Two years' attendance, with Lectures in Dental Surgery and Pathology and in Mechanical Dentistry and Orthodonty. Fee, £28 7s.
   2. Practical Mechanical Dentistry. Three years' instruction from a Registered Dentist. The fee for this is variable, but may be set down at from £50 to £150.

Large reductions in the Special Certificates required are made in the cases of qualified Medical Practitioners.

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[*] Fuller particulars can be obtained by application to the Registrar, Royal College of Surgeons, St. Stephen's-green, Dublin.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. Moore, B.A., M.D., Univ. Dubl.;
F.R.C.P.I.; F. R. Met. Soc.;
Diplomate in State Medicine and ex-Sch. Trin. Coll. Dubl.

Vital Statistics

For four Weeks ending Saturday, September 5, 1896.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000:—

Towns	Weeks ending				Towns	Weeks ending			
	Aug. 15.	Aug. 22.	Aug. 29.	Sept. 5.		Aug. 15.	Aug. 22.	Aug. 29.	Sept 5.
Armagh -	14·0	7·0	14·0	0·0	Limerick -	15·4	11·2	15·4	18·2
Belfast -	22·6	18·6	19·9	16·2	Lisburn -	0·0	12·8	17·0	12·8
Cork -	24·2	18·7	17·3	18·0	Londonderry	22·0	11·0	9·4	23·6
Drogheda -	4·4	26·4	4·4	22·0	Lurgan -	9·1	9·1	13·7	9·1
Dublin -	21·0	23·9	20·6	22·7	Newry -	16·1	28·2	8·1	12·1
Dundalk -	25·1	4·2	12·6	4·2	Sligo -	30·5	25·4	15·2	10·2
Galway -	22·7	7·6	11·3	30·2	Waterford -	10·0	32·5	7·5	40·0
Kilkenny -	0·0	18·9	9·4	9·4	Wexford -	4·5	27·1	22·6	9·0

In the week ending Saturday, August 15, 1896, the mortality in thirty-three large English towns, including London (in which the rate was 19·7), was equal to an average annual death-rate of 19·9 per 1,000 persons living. The average rate for eight principal towns of Scotland was 16·1 per 1,000. In Glasgow the rate was 17·3. In Edinburgh it was 16·2.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 20·3 per 1,000 of the population, which, for the purposes of this Return, is estimated at 908,567.

The deaths from the principal zymotic diseases in the sixteen

districts were equal to an annual rate of 3·5 per 1,000, the rates varying from 0·0 in ten of the districts to 6·3 in Londonderry—the 14 deaths from all causes registered in that district comprising 2 from measles and 2 from scarlatina. Among the 120 deaths from all causes registered in Belfast are 1 from measles, 3 from scarlatina, 6 from whooping-cough, 1 from diphtheria, 1 from simple continued fever, 5 from enteric fever, and 12 from diarrhœa.

In the Dublin Registration District the registered births amounted to 251—119 boys and 132 girls; and the registered deaths to 145—66 males and 79 females.

The deaths, which are 11 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 21·6 in every 1,000 of the population. Omitting the deaths (numbering 4) of persons admitted into public institutions from localities outside the district, the rate was 21·0 per 1,000. During the first thirty-three weeks of the current year the death-rate averaged 24·4, and was 3·5 under the mean rate in the corresponding period of the ten years 1886-1895.

The number of deaths from zymotic diseases registered was 32, being 4 over the average for the corresponding week of the last ten years, but 14 under the number for the previous week. The 32 deaths consist of 4 from scarlet fever (scarlatina), 1 from typhus, 2 from influenza and its complications, 1 from whooping-cough, 3 from enteric fever, 5 from simple cholera and choleraic diarrhœa, and 16 from diarrhœa. The deaths from diarrhœa are 2 over the average for the corresponding week of the ten years 1886–1895, but 13 under the number registered in the previous week. They include the deaths of 15 children under 5 years of age, of whom 11 were infants under 1 year old.

The number of cases of enteric fever admitted to hospital was 20, being equal to the admissions in the preceding week. Fourteen enteric fever patients were discharged and 93 remained under treatment on Saturday, being 6 over the number in hospital at the close of the preceding week.

Sixty cases of scarlatina were admitted to hospital, against 34 in each of the two weeks preceding. Thirty-six patients were discharged, 2 died, and 225 remained under treatment on Saturday, being 22 over the number in hospital on that day week.

The number of deaths from diseases of the respiratory system registered was 12, being 7 over the low number for the preceding week, but 2 under the average for the thirty-third week of the last ten years. The 12 deaths comprise 6 from bronchitis and 5 from pneumonia or inflammation of the lungs.

In the week ending Saturday, August 22, the mortality in thirty-three large English towns, including London (in which the rate was 16·8), was equal to an average annual death-rate of 18·0 per 1,000 persons living. The average rate for eight principal towns of Scotland was 16·5 per 1,000. In Glasgow the rate was 16·5, and in Edinburgh it was 18·1.

The average annual death-rate in the sixteen principal town districts of Ireland was 20·1 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 3·0 per 1,000, the rates varying from 0·0 in eleven of the districts to 9·4 in Kilkenny—the 4 deaths from all causes registered in that district comprising 2 from diarrhœa. Among the 99 deaths from all causes registered in Belfast are 2 from measles, 5 from whooping-cough, 6 from enteric fever, and 6 from diarrhœa. The 27 deaths in Cork comprise 1 from each of the following—typhus, enteric fever, and diarrhœa.

In the Dublin Registration District the registered births amounted to 167—85 boys and 82 girls; and the registered deaths to 167—91 males and 76 females.

The deaths, which are 12 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 24·9 in every 1,000 of the population. Omitting the deaths (numbering 7) of persons admitted into public institutions from localities outside the district, the rate was 23·9 per 1,000. During the first thirty-four weeks of the current year, the death-rate averaged 24·4, and was 3·4 under the mean rate in the corresponding period of the ten years 1886–1895.

The number of deaths from zymotic diseases registered was 33, being 8 over the average for the corresponding week of the last ten years, and 1 over the number for the previous week. The 33 deaths comprise 1 from scarlet fever (scarlatina), 2 from influenza and its complications, 2 from whooping-cough, 4 from enteric fever, 1 from English cholera, 21 from diarrhœa, and 1 from erysipelas. The deaths from diarrhœa are 8 above the average for the corresponding week of the ten years 1886–1895, and 5 over the number for the previous week. They include the deaths of 18 children under 5 years of age, of whom 12 were infants under 1 year old.

Twenty-eight cases of enteric fever were admitted to hospital, being 8 over the admissions in the preceding week. Eleven enteric fever patients were discharged, 4 died, and 106 remained under treatment on Saturday, being 13 over the number in hospital at the close of the preceding week.

The number of cases of scarlatina admitted to hospital was 34, being 26 under the admissions in the preceding week. Twenty-one patients were discharged, 1 died, and 237 remained under treatment on Saturday, being 12 over the number in hospital on that day week.

One case of typhus was admitted to hospital; 2 cases remained under treatment at the close of the week.

The number of deaths from diseases of the respiratory system was 16, being 4 over the number in the preceding week, but 2 below the average for the thirty-fourth week of the last ten years. The 16 deaths comprise 8 from bronchitis and 5 from pneumonia or inflammation of the lungs.

In the week ending Saturday, August 29, the mortality in thirty-three large English towns, including London (in which the rate was 16·1), was equal to an average annual death-rate of 17·4 per 1,000 persons living. The average rate for eight principal towns of Scotland was 16·3 per 1,000. In Glasgow the rate was 18·1, and in Edinburgh it was 15·3.

The average annual death-rate represented by the deaths registered in the sixteen principal town districts of Ireland was 18·2 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·4 per 1,000, the rates varying from 0·0 in eleven of the districts to 5·1 in Sligo—the 3 deaths from all causes registered in that district comprising 1 from typhus. Among the 106 deaths from all causes registered in Belfast are 2 from measles, 2 from scarlatina, 1 from whooping-cough, 1 from diphtheria, 1 from enteric fever, and 10 from diarrhœa.

In the Dublin Registration District the registered births amounted to 189—92 boys and 97 girls; and the registered deaths to 142—76 males and 66 females.

The deaths, which are 28 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 21·2 in every 1,000 of the population. Omitting the deaths (numbering 4) of persons admitted into public institutions from localities outside the district, the rate was 20·6 per 1,000. During the first thirty-five weeks of the current year the death-rate averaged 24·3, and was 3·4 under the mean rate in the corresponding period of the ten years 1886-1895.

The number of deaths from zymotic diseases registered was 24, being 10 under the average for the corresponding week of the last ten years, and 9 under the number for the previous week. The 24 deaths consist of 2 from scarlet fever (scarlatina), 3 from enteric fever, 2 from choleraic diarrhœa, and 17 from diarrhœa. The deaths from diarrhœa are 1 below the average for the corresponding week of the ten years 1886–1895, and 4 below the number for the previous week. They include the deaths of 15 children under 5 years of age, of whom 10 were infants under one year old.

The number of cases of enteric fever admitted to hospital was 17, being a decline of 11 as compared with the admissions in the preceding week. Fifteen enteric fever patients were discharged, and 108 remained under treatment on Saturday, being 2 over the number in hospital at the close of the preceding week.

There has been a further decrease in the number of cases of scarlatina admitted to hospital. Only 24 patients were received, against 34 in the preceding week and 60 in that ended August 15. Thirty-five patients were discharged, 2 died, and 224 remained under treatment on Saturday, being 18 under the number in hospital at the close of the preceding week.

One case of typhus was admitted to hospital. Three cases of the disease remained under treatment at the close of the week.

Thirteen deaths from diseases of the respiratory system were registered, being 3 under the number in the preceding week and 4 below the average for the thirty-fifth week of the last ten years. The 13 deaths consist of 8 from bronchitis, 2 from pneumonia or inflammation of the lungs, 2 from croup, and 1 from pleurisy.

In the week ending Saturday, September 5, the mortality in thirty-three large English towns, including London (in which the rate was 15·4), was equal to an average annual death-rate of 16·5 per 1,000 persons living. The average rate for eight principal towns of Scotland was 18·1 per 1,000. In Glasgow the rate was 19·5, and in Edinburgh it was 16·9.

The average annual death-rate in the sixteen principal town districts of Ireland was 19·8 per 1,000 of the population.

The deaths from the principal zymotic diseases registered in the sixteen districts were equal to an annual rate of 2·7 per 1,000, the rates varying from 0·0 in ten of the districts to 6·3 in Londonderry—the 15 deaths from all causes registered in that district comprising 1 from each of the following diseases:—Measles, scarlatina, diphtheria, and diarrhœa. Among the 86 deaths from all causes registered in Belfast are 6 from measles, 2 from scarlatina, 1 from whooping-cough, 3 from enteric fever, and 6 from diarrhœa.

The 26 deaths in Cork comprise 1 from whooping-cough and 2 from diarrhœa. The 16 deaths in Waterford comprise 2 from whooping-cough.

In the Dublin Registration District the registered births amounted to 196—101 boys and 95 girls; and the registered deaths to 156—78 males and 78 females.

The deaths, which are 2 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 23·3 in every 1,000 of the population. Omitting the deaths (numbering 4) of persons admitted into public institutions from localities outside the district, the rate was 22·7 per 1,000. During the first thirty-six weeks of the current year the death-rate averaged 24·3, and was 3·3 under the mean rate in the corresponding period of the ten years 1886–1895.

Twenty-five deaths from zymotic diseases were registered, being 1 over the number in the preceding week, but 6 below the average for the corresponding week of the last ten years. The 25 deaths comprise 5 from scarlet-fever (scarlatina), 3 from whooping-cough, 1 from diphtheria, 1 from ill-defined fever, 1 from enteric fever, 2 from simple cholera and choleraic diarrhœa, 9 from diarrhœa, and 1 from erysipelas. The deaths from diarrhœa are 8 below the average for the corresponding week of the ten years 1886–1895, and also 8 under the number registered in the previous week. They include the deaths of 8 children under 5 years of age, of whom 7 were infants under one year old.

Only 9 cases of enteric fever were admitted to hospital, being 8 under the admissions in the preceding week, and 19 under those in the week ended August 22. Fourteen enteric fever patients were discharged, 1 died, and 102 remained under treatment on Saturday, being 6 under the number in hospital at the close of the preceding week.

The number of cases of scarlatina admitted to hospital was 22, being a decline of 2 as compared with the preceding week, and 12 under the number for that ended August 22. Thirty-two patients were discharged, 2 died, and 212 remained under treatment on Saturday, being 12 under the number in hospital at the close of the preceding week.

Nine deaths from diseases of the respiratory system were registered, being 8 below the average for the thirty-sixth week of the last ten years and 4 below the low number for the preceding week. The 9 deaths comprise 4 from bronchitis, 1 from pneumonia or inflammation of the lungs, and 1 from croup.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ *N., Long.* 6° 15′ *W., for the Month of August,* 1896.

Mean Height of Barometer,	30·073 inches.
Maximal Height of Barometer (on 10th, at 9 a.m.),	30·361 „
Minimal Height of Barometer (on 29th, at 11 30 p.m.),	29·570 „
Mean Dry-bulb Temperature,	57·5°.
Mean Wet-bulb Temperature,	54·3°.
Mean Dew-point Temperature,	51·3°.
Mean Elastic Force (Tension) of Aqueous Vapour,	·381 inch.
Mean Humidity,	80·4 per cent.
Highest Temperature in Shade (on 23rd),	71·1°.
Lowest Temperature in Shade (on 26th),	45·6°.
Lowest Temperature on Grass (Radiation) (on 6th and 26th),	42·0°.
Mean Amount of Cloud,	63·6 per cent.
Rainfall (on 18 days),	1·136 inches.
Greatest Daily Rainfall (on 12th),	·172 inch.
General Directions of Wind,	N., W., N.W.

Remarks.

A cool, breezy, showery month, with a remarkable prevalence of northerly and north-westerly winds. In Dublin rain fell in measureable amount on as many as 18 days, but the total precipitation fell short of the average by 1·689 inches. This was due to the fact that the rainfall was chiefly caused by showers—indeed, not a single continuously "wet day" occurred during the month. The amount of cloud was very large in the mornings—72·9 per cent., but the evening skies were much freer from cloud—54·2 per cent. only.

In Dublin the arithmetical mean temperature (58·3°) was decidedly below the average (59·7°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 57·5°. In the thirty-one years ending with 1895, August was coldest in 1881 (M. T. = 57·0°). and warmest in 1893 (M. T. = 63·0°). In 1895 the M. T. was 60·0°; in 1879 (the "cold year") it was 57·7°.

The mean height of the barometer was 30·073 inches, or 0·176 inch above the corrected average value for August—namely, 29·897 inches. The mercury marked 30·361 inches at 9 a.m. of the 10th, and fell to 29·570 inches at 11 30 p.m. of the 29th. The observed range of atmospheric pressure was, therefore, ·791 inch—that is, a little less than four-fifths of an inch.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 57·5°, or 1·3° below the value in August, 1895. It was also 2·2° below the value for July, 1896. Using the formula, *Mean Temp.* = *Min.* + (*max.* — *min.* × ·47), the mean temperature was 57·9°, or 1·4° below the average mean temperature for August, calculated in the same way, in the twenty-five years, 1865–89, inclusive (59·3°). The arithmetical mean of the maximal and minimal readings was 58·3°, compared with a twenty-five years' average of 59·7°. On the 23rd the thermometer in the screen rose to 71·1°—wind, W.S.W.; on the 26th the temperature fell to 45·6°—wind, N.W. The minimum on the grass was 42·0°, on the 6th and 26th.

The rainfall was 1·136 inches, distributed over 18 days. The average rainfall for August in the twenty-five years, 1865–89, inclusive, was 2·825 inches, and the average number of rainy days was 15·5. The rainfall, therefore, was much below, while the rainy days were considerably in excess of, the average. In 1874 the rainfall in August was very large—4·946 inches on 18 days; and in 1868, also, 4·745 inches fell on, however, only 13 days; but the heaviest downpour in August occurred in 1889, when 5·747 inches were registered on 22 days. In 1895, 3·548 inches fell on 27 days. On the other hand, in 1884, only ·777 inch was measured on 8 days.

High winds were noted on as many as 18 days, and attained the force of a gale on three occasions in Dublin—the 13th, 24th, and 30th. Thunder occurred on the 26th. Lunar halos were seen on the 19th, 24th, and 27th. Temperature reached 70° in the screen on 2 days. Hail fell on the 26th.

The weather was very fine, bright, and summer-like on Saturday, the 1st.

Throughout the week ended Saturday, the 8th, an anticyclone, or area of high barometric pressure, lay over Ireland and upon the Atlantic to the westward of this country. It was of moderate intensity, the barometer never exceeding 30·4 inches. The weather may be described as cool and cloudy, with moderate to fresh northerly winds and scanty rainfall. On the Continent conditions were less favourable than in Ireland owing to the appearance of atmospheric depressions both over the Gulf of Bothnia and in the Mediterranean Basin. At times also secondary low-pressure systems moved across the North Sea in a southerly direction, bringing squally N. winds and cold showers to the eastern seaboard of Great Britain and even of Ireland between Wednesday evening and Friday afternoon. No extreme heat was observed by day—

the highest shade-reading of the thermometer was 72° at Prawle Point (Devon) and Dungeness (Kent) on Tuesday—at Jersey a maximum of 75° was recorded on Monday. On the other hand, the nights were often very cool for the time of year. On Tuesday night the screened thermometer sank to 39° at Nairn and to 40° at Wick and Loughborough. At the last named station the thermometer fell to 32° on the grass. In Dublin the mean height of the barometer was 30·176 inches, pressure falling to 30·080 inches at 9 p.m. of Monday (wind, N.N.E.) and rising to 30·290 inches at 9 a.m. of Thursday (wind, N.). The corrected mean temperature was 57·1°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 56·7°. On Monday the screened thermometers rose to 66·4°; on Wednesday they fell to 46·7°. Rainfall amounted to ·043 inch on two "rainy" days, ·021 inch being measured on Friday. An additional ·002 inch was recorded on Saturday. The prevalent winds were northerly (N.N.E. and N.N.W.).

Changeable, breezy, showery weather prevailed throughout the week ended Saturday, the 15th. As for some time past, so in this period an area of high atmospheric pressure existed over the Atlantic—at first to the N.W. and W. of Ireland, afterwards off the S.W. and S. of this country. On Sunday morning a large and irregular area of relatively low pressure—30 inches or slightly less—was over France. It had caused heavy rain and thunder and lightning during the previous night in the S. and E. of England—even at Greystones, Co. Wicklow, a local heavy fall of rain amounting to ·350 inch took place on Sunday morning. Only light showers fell at this time in Dublin, and the day proved fine and bright with a cool N.E. wind. On Monday afternoon the wind backed towards W., as a low pressure system approached Norway from W.N.W. This system caused higher temperatures, but at the same time showers in many districts. On Wednesday a deeper depression came in over Scotland, so that the wind freshened and showers continued to fall. At 8 a.m. of Friday the main depression was stationary near the Shetlands, while secondaries lay over Denmark and also over the English Channel. On Saturday an anticyclone was again found off the West of Ireland, and northerly winds, cloudy skies, and lower temperatures prevailed. In Dublin the mean atmospheric pressure was 30·207 inches, the barometer varying from 30·361 inches at 9 a.m. of Monday (wind, N.N.E.) to 29·999 inches at 9 a.m. of Friday (wind, W.N.W.). The corrected mean temperature was 60·1°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 58·9°. On Monday the screened thermometers fell to 49·8°, on Wednesday they rose to 70·7°. The rainfall was ·290 inch on four days, ·149 inch being measured on Thursday. Northerly and westerly winds prevailed.

Although no atmospheric depressions of great importance were observed, yet the passage eastward or south-eastward across North-western Europe of numerous irregular and somewhat complex areas of relatively low barometer readings kept the weather in an unsettled, cloudy, showery condition all through the week ended Saturday, the 22nd. Sunday was a fine day in Ireland, the air was dry and temperature was low. A ridge of high pressure moved away eastward as the day advanced, so that by Monday morning gradients for southerly winds had developed, and the weather had become dull and threatening. A considerable fall of rain took place on Monday afternoon. Tuesday was fine, but some rain again fell at night. On Wednesday, northerly winds blew over Ireland, while the weather was kept in a rainy state in Great Britain by several shallow atmospheric depressions. The last three days of the week in Dublin began with clouds and light falls of rain, but the afternoons and evenings were finer and brighter. Thunder and lightning occurred in London on Wednesday night. There was once more a tendency for the wind to draw into N.W. and N. In Dublin the mean height of the barometer was 30·017 inches, pressure ranging from 30·213 inches at 9 a.m. of Sunday (wind, N.) to 29·866 inches at 9 p.m. of Monday (wind, S.W.). The corrected mean temperature was 57·8°. The mean dry bulb reading at 9 a.m. and 9 p.m. was also 57·8. On Sunday the screened thermometers fell to 48·9°, on Saturday they rose to 68·7°. The rainfall was ·326 inch, on six days, ·172 inch being measured on Monday. The prevailing winds were N. and W.N.W.

Throughout the week ended Saturday, the 29th, the weather remained in an unsettled state—with varying temperature, much cloud, blustering winds, and frequent if not heavy falls of rain. The changeable conditions of the period were brought about by a succession of atmospheric depressions, which travelled eastwards or spread south-eastwards across the N.W. of Europe. At the beginning, temperature was high, so that on Sunday the thermometer rose in the shade to 71° in Dublin and at Roche's Point, Co. Cork; to 73° at Hurst Castle, 74° in London and at Prawle Point, Devon; and to 75° at Oxford. On Monday a decided "chill" occurred which culminated in a spell of unusual cold for August on Tuesday, Wednesday, and Thursday. Within this period strong N. and N.W. winds prevailed, and heavy showers of rain and hail descended, accompanied in many places by thunder and lightning. On Tuesday night the thermometer in the screen fell to 37° at

Aberdeen, 38° at Wick, and 40° at Nairn. Even in Dublin the minimum on the same occasion was 45·6°, while 42° was recorded on the grass. Thursday and Friday were dry days, but the amount of cloud was large and the wind was fresh and gusty. On Saturday the wind was strong from S.W. and the weather again became very unsettled and showerlike. In Dublin the mean height of the barometer was 29·950 inches, the range being from 30·212 inches at 9 p.m. of Thursday (wind, N.W.) to 29·570 inches at 11 30 p.m. of Saturday (wind, S.S.W.). The corrected mean temperature was 57·0°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 56·7°. On Sunday the screened thermometers rose to 71·1°, on Wednesday they fell to 45·6°. Rain fell on five days to the amount of ·465 inch, ·148 inch being registered on Sunday. Hail fell on Wednesday, when also thunder was heard. The prevalent winds were W., N.W., and N.

Sunday, the 30th, began with a gale of wind from S.W., but finally proved a very fine day. The sunset was of great beauty. Monday, the 31st, was at first cold, then fair and bright. A thunder-storm with heavy rain and hail passed across the centre of Ireland in the afternoon. At Parsonstown, ·61 inch of rain was measured after the storm.

The rainfall in Dublin during the eight months ending August 31st amounted to 14·464 inches on 120 days, compared with 20·333 inches on 123 days in 1895, 9·455 inches on 96 days during the same period in 1887, and a twenty-five years' average of 17·558 inches on 128·1 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall in August, 1896, was 1·245 inches on 14 days, compared with 4·735 inches distributed over 24 days in 1895. Of this quantity ·350 inch fell on the 8th. The total fall since January 1 amounts to 14·327 inches on 91 days, compared with 22·685 inches on 107 days in 1895, 25·206 inches on 131 days in 1894, 16·341 inches on 106 days in 1893, and 21·296 inches on 108 days in 1892.

PASTEUR TREATMENT OF HYDROPHOBIA.

Pottevin (*Annales de l'Institut Pasteur*, February, 1896) reports the following concerning the inoculation against hydrophobia at the Institut Pasteur during 1895.—Number treated 1,520, dead 2, mortality 0·13. This is the smallest death-rate since the beginning of Pasteur treatment. Of the persons who were inoculated 257 were foreigners and 1,263 French.—*Jour. Am. Med. Ass.*

PERISCOPE.

ARTIFICIAL EGG-SHELL.

Dr. B. W. Richardson, F.R.S. (*Asclepiad*, No. 44), has succeeded in imitating the formation of egg-shell. Five hundred grains of albumen from white of egg were well admixed with an equal portion of neutralised solution of per-oxide of hydrogen of 10 vol. strength. The mixture was placed in an earthenware beaker, and gently warmed to 105° F. The upper surface of the solution was next very evenly and gently spread with a coating of fresh lime, and over the lime was equally distributed a fine layer of a solution of phosphorus in bisulphide of carbon. The whole was placed at a temperature of 105° F. in an incubation oven. After a few hours the bisulphide evaporated, and the lime was seen to be in a glow. It was then found that a phosphate of lime covering was spread all over the albumen quite evenly, like the shell of an egg. This covering, when broken up, was of the usual egg-shell character, breaking in the same brittle way, and presenting sharp edges.

PROHIBITION IN KANSAS.

Kansas is a prohibition State, and the drug store is consequently the only resort of the thirsty. Purchasers of liquor are obliged to make an affidavit that it is for medicinal purposes, stating at the same time the disease for which a cure is sought. An examination of the drug-store returns of Topeka for January discloses a prevalence of colds, over one-half of the affidavits on which liquor was sold being for "the disease of cold." Officers of the Temperance Union found one obstinate case of this complaint, that of a prominent business man, whose name was found in the application books of a drug store nine times in seventeen days, on each of which occasions he obtained a pint for the "disease of cold." Among the other maladies for which relief was sought in some form of alcohol were "the disease of old age," the "loss of an eye," and "cramp in the heel."—*Med. Rec.*

THE METRIC SYSTEM.

A bill has been favourably reported in the House of Representatives providing that all departments of the federal government business requiring the use of weights and measures shall be conducted on the metric system after July 1, 1896, and extending this system to the commerce of the country on January 1, 1901.—*Med. Rec.*

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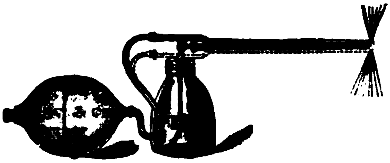
IMPROVED METHODS OF ATOMISATION.

⁂

It has been stated on good authority that the inhalation of medicated vapours is of decided benefit in the treatment of catarrhal conditions of the naso-pharyngeal mucous membrane and affections of the lungs and air passages. For a long time doubts existed as to the possibility of inhaled particles passing the glottis; very probably the objections raised had some foundation in fact when steam inhalations were employed, the majority of the vapour condensing before it reached the trachea. The case is different where an oily solution is employed for atomisation, as the minute particles are conveyed with each inspiration into the lungs and air passages. and by reason of the oily consistency are kept in prolonged contact with the mucous membrane. Many eminent throat specialists have raised objections to the indiscriminate employment of hot steam inhalations in the treatment of throat affections because by this method the tissues are unduly relaxed, and the system is renderep less able to resist unfavourable influences.



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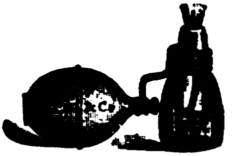

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NOVEMBER 2, 1896.

PART I.

ORIGINAL COMMUNICATIONS.

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Art. XVI.—*The Thyroid Treatment of Psoriasis.* By H. S. Purdon, M.D.; Consulting Physician, Belfast Hospital for Diseases of the Skin.

During the last few years a good deal of attention has been directed to the use of thyroid extract in the treatment of various diseases, especially so with regard to lupus and also psoriasis. It occurs to me that we know little regarding the "cause" of psoriasis, and, as a result of my own observations, I have come to the conclusion that this cutaneous eruption is intimately connected with a gouty, or what we call in Ireland a "rheumatic-gouty" state of the constitution. As is well known, psoriasis is very often hereditary, and "runs," so to speak, in rheumatic or gouty families. The sufferer from psoriasis is, as a general rule, in good health, and if it were not for his skin trouble, would be all right. It is a curious fact that about the joints, as elbows and knees, are the places first attacked, and often a good deal of urate of ammonia is present in the urine. Psoriasis attacks both sexes in about equal proportions, but is more frequently observed in dark-haired complexioned people, such as the old physicians called of a "bilious temperament." My experience of psoriasis in fair-haired, but especially in *red*-haired persons—in whom it is rare—is that the complaint is then excessively obstinate to treatment and most difficult to remove. Another fact I have noticed is that in "full-blooded" people, who probably live well, and where the patches of psoriasis are red and congested, a little wine of antimony, given after food to prevent sickness, has a beneficial effect. In such cases, 60 years ago, the patient would have been bled. The antimony, when combined with saline aperients or diuretics, acts better. I have never seen any good derived from drinking "sulphur" waters, as those of Harrogate, Aix-la-Chapelle, or Ballynahinch, near Belfast. I have sent patients to all these places, and they usually returned in about the same condition as when they left. Indeed, sulphur or arsenic, in the "acute" or congested stage, "sends out" more of the eruption. However, I have noticed good results from dieting, and I am strongly convinced that the less "butcher's" meat the patient takes the better. I would go further, and state that a vegetarian diet, with avoidance of stimulants—milk and eggs to be allowed—will give good results. I am borne out in this view by my friend, Dr. Duncan Bulkley, of New York, who recommends the restricting the quantity of animal food in the treatment of psoriasis. For those of a thin or spare habit, plenty of butter and good "oily" cocoa, not Dutch cocoa, is to be recommended. Also exercise and to promote perspiration, I have seen rapid improvement in both sexes by the use of the bicycle, and often advise the purchasing of one, but the use of the Turkish bath in the declining stage—or used regularly to prevent a return of the eruption—is to be highly recommended.

With regard to the use of thyroid extract, I have given it a fair trial in six cases, and the results, briefly stated, are as follows:—One case, that of a gentleman, aged forty, a member of the legal profession, took the extract—5 grains—thrice daily for 4 days, when he complained of severe pain in the occipital region, and sleeplessness, with more or less "nervousness," when the extract had to be discontinued. *Two* other cases, both girls, aged about twenty years, took the extract for some weeks, made *much worse* as far as eruption was concerned. Two other cases, also girls, under twenty-two years of age, continued treatment for several weeks, *no improvement.* One case of a girl, aged nineteen years, a very chronic case, pale complexion. This patient attended at the Skin Hospital for upwards of a year before beginning thyroid treatment. At end of three months her skin trouble was *completely removed*, and, as far as I know, no return as yet; this is upwards of two years ago.

It occurred to me that a "concensus" of *dermatological* opinion from some of the principal medical men engaged in cutaneous practice in the chief towns of England, Scotland, and Ireland, might be interesting, and I have to thank those gentlemen who so kindly answered my questions. It is evident that the beneficial effects of thyroid extract in such cutaneous diseases as psoriasis and lupus is probably due to the effects, often depressing, that the remedy has on the state of nutrition of the body generally.

I have asked only those gentlemen with whom I have had some acquaintance for their opinion; hence many eminent dermatologists are omitted.

I beg now to submit extracts from the replies received:—

P. Abraham, M.D., Physician for the Skin, West London Hospital, and to Blackfriars Hospital for Skin Diseases, Sept. 21, 1896:—"The conclusions I have formed have been abundantly confirmed by my subsequent experience. . . . On account of its uncertainty, its frequent disagreeable effects, and from the fact that I can successfully treat in a short time by other methods most cases of psoriasis that come before me, I have practically given up the exhibition of thyroid gland in psoriasis."

Morgan Dockrell, M.D., Physician, St. John's Hospital for the Skin, London, Sept. 22:—"I consider thyroid extract most useful in many cases of psoriasis. In some cases I have been able to obtain 'cures,' although slowly, without the aid of local applications. In the majority of cases I find it the best internal treatment I have ever used, and a great aid to local treatment. I give 5 grs. three times a day to adults and 1½ grains to children. In addition, I have several patients who have suffered from outbreaks of psoriasis in the spring and fall who, since using the thyroid extract, have been able, by taking 3 or 4 tabloids a week, to tide over these times without any recurrence."

E. Mackey, M.D., Physician, Sussex Hospital, and Alexandra Hospital for Children, Brighton, Sept. 23, 1896:—"In reply, I have not had much satisfaction with thyroid in outdoor work, and do not use it much, but in one case of a child—very obstinate—

that took it and kept in bed for some weeks, giving 6 tabloids daily, did very well."

W. G. Bower, M.D., Physician, Hospital for Skin Diseases, Sheffield, Sept. 23:—"Although I have found thyroid extract successful in a few cases, I do not consider it of marked improvement on the remedies hitherto used."

Allan Jameson, M.D., Physician, Department for the Skin, Royal Infirmary, Edinburgh, Sept. 22:—"I have tried thyroid in several cases of psoriasis; entirely negative results. Some were outpatients; one took several tabloids daily for six months. In the Infirmary I could not say that any case was benefited, and some suffered so much from palpitation that they refused to continue it."

Professor M'Call Anderson, M.D., Physician, Western Infirmary, and to Hospital for Skin Diseases, Glasgow, Sept. 23:—"In reply to your inquiry, I have to say that, undoubtedly, in some cases, the thyroid treatment of psoriasis is of great benefit, but it is very uncertain in its action. I find, too, that if it is necessary to 'push it, that it is difficult to do so when the patient is going about his ordinary avocations, as it not only leads to much loss of flesh, but also makes the patient depressed. It therefore requires to be used with caution."

Leslie Phillips, M.D., Physician, Birmingham Hospital for Skin Diseases, Sept. 25, 1896:—"Generally speaking, I have found thyroid exceedingly disappointing in psoriasis. Nothing is more frequent than to see a fresh eruption take place during the time patient is under the extract."

Stewart Stirling, M.D., Physician, Edinburgh Dispensary for Skin Diseases, Sept. 28, 1896:—"I have tried thyroid extract in a few cases of psoriasis, entirely without any beneficial results."

Alexander Morton, M.D., Physician to Skin Department, Glasgow Royal Infirmary, Sept. 29, 1896:—"Thyroid extract practically useless in psoriasis, unless given in such large doses as to cause considerable constitutional disturbance, and lay patients up. Even then the 'cure' is not complete, nor the improvement permanent."

G. G. Stopford Taylor, M.D., Physician, Hospital for the Skin, Liverpool, Sept. 21, 1896:—"The treatment of psoriasis by thyroid extract, in my hands, has proved so disappointing that I have practically given it up."

R. Leigh, M.D., Physician, St. George's Hospital for the Skin, Liverpool, Sept. 22, 1896:—"I have hardly used thyroid extract in psoriasis, and cannot say that I have found it useful or otherwise."

Henry Waldo, M.D., Physician for Skin Diseases, Bristol Royal Infirmary, Sept. 22, 1896:—"In answer to yours, I have to say that thyroid extract has been very beneficial in only a few of my cases of psoriasis."

Professor Walter G. Smith, Physician, Sir Patrick Dun's Hospital, Dublin, Sept. 21, 1896:—"I have given thyroid extract in a few cases of psoriasis, but did not observe any special benefit from its use, and in at least one case it produced alarming depression, with weakness. I think it a risky remedy for an affection like psoriasis, which is best treated—namely, by local remedies."

Wallace Beatty, M.D., Physician for Skin Diseases, Adelaide Hospital, Dublin, Sept. 21, 1896:—"I have used thyroid gland extract in but a few cases, and did not push it to a dangerous dose. I cannot say that I was inspired favourably with it. The cases I tried it in improved a little, but were not cured. Thyroid extract in psoriasis will not prevent relapses."

R. Glasgow Patteson, M.B., formerly Physician for the Skin, St. Vincent's Hospital, Dublin, Sept. 21:—"The results I have seen did not seem to me better than those obtainable by local methods."

E. B. Purdon, M.B., Physician, Belfast Hospital for Skin Diseases, Sept. 22:—"Have used thyroid extract in two cases—both girls. The psoriasis disappeared in about two months. Do not think it superior to other methods, and gives no guarantee against relapses."

Dr. Abraham, in a most valuable paper (*Transactions of Medical Society of London*), read Jan. 8, 1894, gives the results of his observation in cases of diseases of the skin treated by thyroid gland, as a result of this method, in 65 cases of psoriasis, 7 cases of eczema, and 4 of lupus. Dr. Byrom Bramwell, as is well known, introduced the remedy, and has published three severe cases of psoriasis, which benefited greatly under its administration. He also mentions in his paper (*British Medical Journal*, August and October 28, 1893) several slighter cases of psoriasis treated in the same way. He quotes a severe case of psoriasis under Dr. Stocker, of Dundee, in which the extract seemed to do little good. Dr. Leslie-Phillips, Physician to Birmingham Skin Hospital, in *Brit. Med. Jour.*, Nov. 25, 1893, gives notes of three cases treated with the extract, but not much improved. Mr. Balmanno Squire, M.B. (*British Med. Jour.*, June 6, 1894), says that he has tried this remedy in two cases of psoriasis, with no beneficial result. Dr. Gordon Gill, in the *Lancet*, June 6, 1894, reports good results in three cases of psoriasis. The weight of medical opinion seems against thyroid extract, at least as a "specific," in the treatment of psoriasis, and, as Dr. Abraham correctly remarks: "The ingestion of thyroid gland, although of specific therapeutical value in myxœdema and sporadic cretinism, has no constant effect in psoriasis and in many other diseases of the skin."

Dr. Piffard, of New York, in his work on "Materia Medica and Therapeutics of Diseases of the Skin," remarks, page 246, that "Psoriasis pertains to the rheumic diathesis, and that the *fons et origo* and the predisposing causes of the affection must be there sought. The exciting causes are obscure. A great number have been mentioned, but hardly one of them will be found to hold good except in a limited number of cases."

The distinguished French physician, Bazin, of St. Louis' Hospital, Paris, professed to distinguish psoriasis, lichen, and prurigo into arthritic and herpetic varieties, but the line is not very well defined.

Dr. Alex Haig, Physician to the Metropolitan Hospital, London, a well-known authority on all matters relating to uric acid, has been kind enough to inform me, in a letter dated Sept. 25, that "with regard to psoriasis, where there is an association with gout or rheumatism, or any cause to expect the presence of uric acid in the blood, that the uric acid should be treated in the hopes of improving the nutrition of the skin and removing the eruption. . . . . In the 3rd edition of 'Uric Acid,' you will find, p. 354, that psoriasis may alternate with an attack of gout, just as various forms of erythema appear to do with rheumatism. I have had a considerable number of cases of skin diseases, called by others gouty eczema, psoriasis, &c., which have yielded in the most decisive manner to the diet treatment of uric acid, so that I quite agree with your practical experience, and believe that the more completely uric acid and xanthins are cut out of the diet the more rapid and complete will be the cure of the skin trouble."

Art. XVII.—*The Medicine and Surgery of the Homeric Poems.* By John Knott, M.A., M.D., Ch.B., and Dip. Stat. Med. (Univ. Dubl.); M.R.C.P.I.; M.R.I.A.; Fellow of the Royal Academy of Medicine in Ireland; &c.

(*Continued from page 214.*)

LONGEVITY.

. . . . . τοῖσι δὲ Νέστωρ
Ἡδυεπὴς ἀνόρουσε, λιγὺς Πυλίων ἀγορητής,
Τοῦ καὶ ἀπὸ γλώσσης μέλιτος γλυκίων ῥέεν αὐδή.
Τῷ δ' ἤδη δύο μὲν γενεαὶ μερόπων ἀνθρώπων
Ἐφθίαθ', οἵ οἱ πρόσθεν ἅμα τράφεν ἠδ' ἐγένοντο
Ἐν Πύλῳ ἠγαθέῃ, μετὰ δὲ τριτάτοισιν ἄνασσεν.

—*Iliad*, I. 247-252.

One of the most important and powerful of the mainsprings of human action, as of human thought—the restless desire to possess what is beyond our reach, the craving wish to attain the unattainable, the straining after an opportunity of trying to perform the impossible—is illustrated in the mythology of longevity, in the pursuit of the elixir of life, and in the hope of immortality after death; as it has been in the endeavour to discover the philosopher's stone, to devise some form of perpetual motion, to make aerial navigation as manageable as oceanic, to perform the geometrical miracle of squaring the circle, to overcome the climatic difficulties in the way of reaching the North Pole, or the various national and individual obstructions in the way of the adoption of a universal language by all the members of our race. Call it ambition, call it vanity, self-love, the desire to overcome, the longing to attain to the first place—some of it will be found in every human breast, and on intimate scrutiny will be found one of the most important incitements of human endeavour. The instinct of self-love will always induce man to take up the best position he can in endeavouring to defend himself against the demon of annihilation—physical or spiritual.

The possession of what all other persons wish for necessarily carries with it respect and influence; and, even on that account alone, the distinction of old age, if unaccompanied by physical or mental imbecility, has always been recognised among the more intelligent of the primitive peoples. The friendly advice of sage experience will always be sought by selfish human beings from those persons who have been, or may be supposed to have been, placed under similar trying circumstances. Accordingly, Nestor's attainments and personality in every way qualified him to become the respected adviser of the Grecian heroes; and his placid suggestions for the restoration of harmony among the chiefs were sometimes as important as those for the arrangement of their battalions on the field of battle:—

> "To calm their Passion with the Words of Age,
> Slow from his seat arose the *Pylian* Sage;
> Th' experienc'd *Nestor*, in Persuasion skilled,
> Words, *sweet* as Honey, from his Lips distill'd.
> Two Generations now had past away,
> Wise by his Rules and happy by his Sway;
> Two Ages o'er his native Realm he reign'd,
> And now th' Example of the third remain'd.
> [All view'd with Awe the Venerable Man;
> Who thus, with mild Benevolence, began;]"
>
> —*Pope.*

We are further told in the Odyssey that our sage had *ruled* over three generations, which would make him still older at this date. The age of Nestor, like the other prominent peculiarities of mythological celebrities, became magnified with the course of the advancing centuries. The older commentators do not appear to have taken the word *γένεα* to signify an age of the world's history, or century, but a "generation" or period of time in which one set of men flourish, which was usually computed at thirty years. From the date given by Nestor in this speech, Madam Dacier has computed the age of the venerable Pylian chief at the date of "Achilles' wrath": The fight of the *Lapithæ* with the *Centaurs* occurred about fifty-five or sixty years before the siege of Troy; the quarrel between Achilles and Agamemnon happened in the tenth and last year of this struggle. It was, accordingly, sixty-five or seventy years since Nestor was engaged against the Centaurs; he was then capable of giving counsel, so that he cannot be supposed to have been under twenty—from which she concludes that he had now almost arrived at the end of his third "generation," or had pretty nearly attained to the age of ninety. Against this probable view, I must, however, note that of the prosperous days of Roman mythology—when Ovid counted the γένεα for a century, and professed to believe that Nestor had attained to the age of three hundred years at the close of the Trojan war.

A tendency to magnify the good or prominent qualities of popular heroes, as well as the advantages to be gained by the attainment of the objects of popular pursuit, has always characterised history and literature. The wise men and the giants—the men of renown—of the remote ages were necessarily long-lived, as well as supernaturally gifted in other respects. The universal deluge of the Mosaic record marks a cataclysmic change in the history of human longevity. As Bacon observes—"*Length* of *Life*, immediately after the *Floud*, was reduced to a Moitie . . . Afterward, three generations being run from the *Floud*, the *Life of Man* was brought downe to a Fourth Part of the Primitive Age; that was, to about two Hundred years." The lengths of the early lives recorded in the Book of Genesis need not be more than referred to, as they are familiar to all; I may, however, note that, of the posterity of the sons of Adam, eight generations appear to have carried the representation of Cain down to the building of the Ark, while eleven generations of the line of Seth are found to have occupied the same period—another instance, so frequent in the history of humanity, of the persistent survival of the *unfittest*! The proverbial privilege of long life would tend to diminish the shock of the loss of immortality to our first parents and their more immediate descendants; but if it be true, as some very competent authorities have endeavoured to show, that the *years* of the genealogy of Noah and his ancestors were the *lunar* ones of the Chaldean sacred chronology, each of which was measured—not by a revolution of the earth around the sun, but by a revolution of the moon around the earth—we have an opportunity of seeing how so very ordinary and commonplace an arithmetical process as that of simple division by the number 13, at once reduces a series of miracles to the level of the most familiar occurrences of daily life.

Like other interesting objects of excessively rare, if not of quite fabulous occurrence, the existence of a person of extreme old age has always excited the greatest curiosity—a fact which helps to account for the periodic record of such prodigies which all ages of the world's history have been found to supply. There are few objects that could be exhibited, even in this extremely matter-of-fact age, which would be likely to attract so large a number of beholders as an authentic duodecagenarian. A brilliant, and decidedly cynical, authoress of the present day makes her English hero inform a friend abroad that there are few "celebrities" in his country, and that these are "chiefly to be found among the jockeys and the divorced women." Such a state of things increases the pity that so fast a century can produce so few centenarian celebrities. When Jean Jacob, the "patriarch of Mount Jura," was deputed (in 1789) by the inhabitants of his native district to thank the National Assembly of France for their delivery from the thraldom of feudal vassalage, in which they and their forefathers had drooped for so many dreary centuries,—every member of that turbulent gathering rose to his feet on the entrance of the venerable man who was authentically reported to have completed the hundred and twenty-seventh year of his age. He was treated by the king with the most deferential courtesy, and ordered a pension for the remainder of his life; which, however, he lived to receive but once, as he died in the following year. This story is paralleled in several of its features by that of the famous Thomas Parr, to which I shall again refer in some detail.

The over-aged man possesses a peculiar interest for the historian and the physiologist, as well as for the ignorant observer of everyday life. Mr. Robert Chambers published in 1847 an interesting paper, entitled "Distant Ages connected by Individuals." He therein states that, "There is living, in the vicinity of Aberdeen, a gentleman who can boast personal acquaintance with an individual who had seen and conversed with another who actually had been present at the battle of Flodden Field! Marvellous as this may appear, it is not the less true. The gentleman to whom allusion is made was personally acquainted with the celebrated Peter Garden, of Auchterless, who died in 1775, at the reputed age of 131, although there is reason to believe that he was several years older. Peter, in his younger days, was servant to Garden, of Troup, whom he accompanied on a journey through the north of England, where he saw and conversed with the famous Henry Jenkins, who died in 1670, at the age of 169. Jenkins was born in 1501, and was of course twelve years old at the period of the battle of Flodden Field; and on that memorable occasion bore arms to an English nobleman, whom he served in the capacity of page." "When we think of such things," adds Mr. Chambers, "the ordinary laws of nature seem to have undergone some partial relaxation; and the dust of ancient times almost becomes living flesh before our eyes."

The marvellous story of Henry Jenkins would appear to have been one of the best authenticated of any of its kind that have been preserved for the admiration of posterity. The following is an abstract of contemporary and subsequent records:—Henry Jenkins, of Ellerton-upon-Swale, Yorkshire, died 1670, aged 169. He remembered the battle of Flodden Field, fought between the English and the Scotch, Sept. 9, 1513, when he was about twelve years old. He was then sent to Northallerton with a cartload of arrows, but an older boy was employed to convey them to the army. At Ellerton there was also living, at the same time, four or five other old men, reputed to be of the age of one hundred years and thereabouts, and they all testified that Jenkins was an elderly man when first they knew him. Jenkins was once butler to Lord Conyers; he perfectly remembered the Abbot of Fountain's Dale before the dissolution of the monasteries. In the last century of his life he was a fisherman, and often swam in the river after he was a hundred years old. In the King's Remembrancer Office, in the Exchequer, there is a record of a deposition in a cause, taken April, 1665, at Kettlewell, Yorkshire, where Henry Jenkins, of Ellerton-upon-Swale, labourer, aged 157 years, was produced, and made deposition as a witness. He was buried at Bolton, Yorkshire; where, in 1743, a monument with a suitable inscription was erected to perpetuate his memory.

The still better authenticated case of "Old Parr" possesses the great additional elements of interest offered by the facts that his personal hygiene and dietary have been sung by the notorious "Water-Poet," and that a *post-mortem* examination of his body was performed and faithfully recorded by the illustrious discoverer of the circulation of the blood:—

> "Good wholesome labour was his exercise,
> Down with the lamb, and with the lark would rise;
> In mire and toiling sweat he spent the day,
> And to his team he whistled time away:
> The cock his night-clock, and till day was done,
> His watch and chief sun-dial was the sun.
> He was of old Pythagoras' opinion,
> That new cheese was most wholesome with an onion;
> Coarse meslin bread, and for his daily swig,
> Milk, buttermilk, and water whey and whig;
> Sometimes metheglin, and, by fortune happy,
> He sometimes sipped a cup of ale most nappy,
> Cider, or perry, when he did repair
> To a Whitson-ale, wake, wedding, or a fair,
> Or when in Christmas-time he was a guest
> At his good landlord's house among the rest;
> Else he had little leisure time to waste
> Or at the ale house, buff-cup ale to taste;
> His physic was good butter, which the soil
> Of Salop yields, more sweet than Candy-oil;
> And garlic he esteemed above the rate
> Of Venice treacle or best mithridate.
> He entertained no gout, no ache he felt,
> The air was good and temperate where he dwelt;
> Thus living within bounds of nature's laws,
> Of his long lasting life may be some cause."

This wonderful old man was a native of Winnington in Shropshire, where he lived up to a short time before his death, which took place in 1635, at the age of 152 years. The records of the period tell us that: "He was a husbandman by occupation, and when 130 years old was still able to perform almost any description of agricultural labour, even to the thrashing of corn. His diet, up to about the last year of his life, was principally skimmed milk-cheese, coarse bread, small beer, milk and whey, which he had often used to rise and eat by night, as well as by day; and it is remarkable that he eat at midnight only a short time before he died. At the age of 80 he first married, taking to wife a young woman, Jane Taylor, by whom he had two children, who both died young. With this wife he lived thirty-two years; but during her life, and when 105 years old, he had an illegitimate child by one Catherine Milton, for which he did penance in Alderbury Church. After the death of his first wife he lived as a widower ten years; he then married Jane Adda, who survived him." At the date of this second marriage he had attained the ripe age of *one hundred and twenty-two years!* And still more wonderful is the result—a daughter was born of the marriage!!

Towards the end of his life, the history and personality of the aged Thomas Parr had excited so much curiosity, even in the highest quarters, that the then Earl of Arundel had him conveyed to London at his own expense to exhibit him to the reigning monarch, Charles I. By a curious coincidence, another long-lived celebrity was presented to her Majesty the Queen by the Countess of Arundel about the same time; in the person of a midwife aged 123 years—and who had been engaged in the practice of her profession up to a period within two years of that date. The triumphal journey of the venerable Shropshire patriarch to London was performed in easy stages, but the attention to which his fame subjected him proved very annoying. His lordship had provided a litter and two horses, "for the more easy carriage of a man so feeble and worn with age;" and a horse was provided for his daughter Lucy to ride, who accompanied her father on his journey. "These were all to be brought out of the country by easy journeys to London, the charges being allowed by his lordship; likewise one of his lordship's own servants, named Bryan Kelly, to ride on horseback with them, and to attend and defray all manner of reckoning, and expenses." The progress of the journey has been thus reported by a contemporary chronicler:—

"Winnington is a parish of Alderbury, eight miles from

Shrewsbury; from whence he was carried to Wear, and the next day to Shifnall, a manor-house of his lordship's, where they likewise stayed one night; from Shifnall they came to Wolverhampton, and the next day to Birmingham, and from thence to Coventry, Although Master Kelly had much to do to keep the people off that pressed upon him in all places where he came, yet at Coventry he was most oppressed, for they came in such multitudes to see the old man, that those that defended him were almost quite tired and spent, and the aged man himself in danger of being stifled; and in a word, the rabble were so unruly, that Bryan was in doubt he should bring his charge no further. The trouble being over, the next day they passed to Daintree, to Stoney-Stratford, to Radburne, and so to London, where he was well entertained and accommodated with all things, having all the aforesaid attendance at the sole charge and cost of his lordship."

The journey, however, proved more than his aged constitution could bear: he survived the great honour of his life but a very short time. He died November 5, 1635, and was buried in Westminster Abbey. We are told that: "The cause of his death was attributed chiefly to the change of food and air; for as much as coming out of a clear and free atmosphere, he came, even at that time, into the comparatively more impure air of London, and after a long practised plain and homely country diet, he was taken into a luxurious family, where he was encouraged under the mistaken notion of thereby improving his health, and further prolonging his life, to feed high, and drink plentifully of the best wines, whereby the natural functions of his body were overcharged, his lungs obstructed, and the habit of the whole body quite disordered, the consequence of which was a certain and speedy dissolution. Had such not been the case, the appearance of his body, internally, indicated that he might yet have lived for a number of years."

A *post-mortem* examination of his body was made by the celebrated Dr. Harvey, the discoverer of the circulation of the blood. It was found to be very muscular; the heart was found "large, thick, fibrous, and fat." The abdominal viscera were "sound and strong, especially the stomach."

The kidneys were "covered with fat and pretty sound; only on the interior surface of them were found some aqueous or serous abscesses; but not the least appearance was there, either in the kidneys or bladder, of any stony matter." The seminal tubes were found full of spermatozoa. The brain was "entire and firm."

The literary notoriety of Thomas Taylor has combined with the scientific celebrity of William Harvey to give special prominence to the case of "Old Parr"—

> "From head to heel, his body had all over,
> A quick-set, thick-set, natural hairy cover."

Such was the external feature which, according to the Water Poet, specially characterised the most be-written of the aged prodigies of modern times.

The other case which has taken a specially prominent place in the records of English longevity is that of the Irish friend of Sir Walter Raleigh, of whom he observes, when discussing "Of the long lives of the Patriarchs: and some of late memorie" in the first book of his "History of the World":—"I my selfe knew the old Countesse of *Desmond* of *Inchiquin* in *Munster*, who liued in the yeere 1589, and many yeeres since, who was married in *Edward* the Fourths time, and held her Ioynture from all the Earles of *Desmond* since then; and that this is true, all the Noblemen and Gentlemen of *Munster* can witnesse."

Bacon appears to accept without hesitation the authenticity of the story as related by his great contemporary; and gives further information on the subject of the longevity of the "wild Irish" in general, and of the Countess of Desmond in particular. "Hiberni, præsertim sylvestres, etiam adhuc sunt valde vivaces; certo aiunt, paucis abhinc annis Comtissam Desmondiæ vixisse ad annum centissimum quadragesimum, et ter per vices dentiisse. Hibernis autem mos est se nudos ante focum butyro salso et veteri fricare et quasi condire." I shall again return to this process of anointing: a habit which would appear to have been practised by several of the grand old people of the world's history.

Even after deduction of the fullest allowable discount for the mythology of the more or less mythical records of the heroes of human longevity, a great deal of useful information may still be gleaned from their study. One feature which can hardly fail to attract the notice of even the most superficial observer, is, that all temperaments are represented on the list of the ultra-centenarians; so that no single type of mental disposition has any such controlling influence as might on first thought be expected. We will see afterwards how the same may be noticed of the dietary and general habits of living.

Starting from the early posterity of Noah, whose ages had been reduced by the flood to a fourth (or less) of that of their antediluvian predecessors—we find the duration of the life of Abraham—"Vir magnanimus, et cui cuncta cedebant prospere"—set down at 175; of Isaac—"Vir castus et vitæ quietioris"—at 180; of Jacob—"Vir patiens, et lenis, et astutus—at 147; of Ishmael—"Vir militaris"—at 137; of Joseph—"Vir prudens et politicus, in adolescentia afflictus, postea in magna felicitate ætatem transigens"—at 110; of Levi—"Vir contumeliæ impatiens et vindicativus"—at 137; of Moses—"Vir animosus, et tamen mitissimus, lingua autem impeditus"—at 120; of Aaron—"Vir lingua promptior, moribus facilior, et minus constans"—at 123; of Phineas—"Vir omnium maxime zelotes"—at 300 ("ex gratia fortasse extraordinaria"); of Joshua—"Vir militaris et dux egregius, et perpetuo florens"—at 110. Job lived one hundred and forty years after his restoration to prosperity—"Vir politicus, et eloquens, et energetes, et exemplum patientiæ." As he had been the prosperous father of grown-up sons before he became the temporary victim of the wiles of Satan, it would appear that thirty-five or forty more years must be added to this number. The elder Tobias attained the age of 158, and the younger 127: both—"Viri misericordes et eleemosynarii." The inspired Elisha—"Vir vehemens et severus, et austeræ vitæ, et contemptor divitiarum"—lived sixty years after the assumption of Elijah, so that he cannot have lived less than his century. Isaiah—"Vir admirabilis eloquentiæ, et propheta evangelizans"—exercised the functions of Divine Seer for a period of seventy years, so that he must have attained to a similar age. This selection of the more prominent of the post-diluvian marvels of long life shows a sufficiently wide range of temperament; and the records which have been preserved of the phenomenally aged individuals of later times show corresponding variety in this department.

Stranger still, perhaps, is the fact that among those who have been specially favoured by length of days we find every variety of habits, morals, diet, clothing, and general modes of living. The study of the subject might well inspire a homily on the utter uselessness of establishing any definite system of diet, hygiene, or morality, compliance with the Procrustean rules of which would give every individual the best chance of reaching an otherwise unattainable age. Kings, princes, statesmen, soldiers, poets, philosophers, divines, physicians, anchorites, labourers, paupers, lunatics, drunkards, tramps, &c., &c., all are prominently represented in the records of longevity. And a corresponding variety in diet and other physiological and hygienic habits is met with. The most noted case of the more recent centuries is thus referred to by Bacon:—"*Johannes de Temporibus*, among all the men of our latter Ages; out of a common Fame, and Vulgar Opinion, was represented Long liv'd, even to a miracle; Or rather, even to a Fable; His Age hath been counted, above three hundred yeares: He was by Nation a *French Man*; And followed the Warres, under *Charles*, the *Great*." He elsewhere observes that—"being asked, How he preserved himself so long; Is said to have answered *by Oile without, and by Honey within.*" The same illustrious philosopher tells us that—"I remember an *old Man*, above an hundred years of Age, who was produced as a witnesse, touching an ancient Prescription; when he had finished his Testimony, the Judge familiarly asked him, How he came to live so long; He answered, beside Expectation, and not without the Laughter of the Hearers; *By Eating before I was Hungry, and Drinking before I was Drie.*" The hygienic practices and surroundings of Mrs. Jane Lewson, widow, of No. 12 Coldbath-square, London, who died in the year 1816, at the reported age of 116, are so peculiar that her record is worthy of detailed perusal. "Mrs. Lewson, from the very eccentric style of her dress, was almost universally recognised as *Lady* Lewson. She was born in Essex-street, Strand, in the year 1700, during the reign of William and Mary; and was married at an early age to a wealthy gentleman then living in the house in which she died. She became a widow at the early age of 26, having only one child, a daughter, living at the time. Mrs. Lewson being left by her husband in affluent circumstances, though she had many suitors, preferred to remain in a state of widowhood. When her daughter married, being left alone, she became very fond of retirement, and rarely went out or permitted the visits of any person. For the last thirty years of her life she had kept no servant, except one old female, who died in 1806; she was succeeded by the old woman's granddaughter, who was married about 1813; and she was followed in the situation by an old man, who attended the different houses in the square to go on errands, clean shoes, &c. Mrs. Lewson took this man into her house, and he acted as her steward, butler, cook and housemaid; and with the exception of two old lap-dogs and a cat, he was her only companion. The house she occupied was elegantly furnished, but after the old style; the beds were kept constantly made, although they had not been slept in for about fifty years. Her apartment was only occasionally swept out, but never washed; the windows were so encrusted with dirt that they hardly admitted a ray of light to pass through them. She had used to tell her acquaintances that if the rooms were wetted it might be the occasion of her taking cold; and as to cleaning the windows, she observed that many accidents happened through that ridiculous practice: the glass might be broke, and the person wounded, when the expense of repairing the one and curing the other might both fall upon her. A large garden at the rear of the house was the only thing connected with her establishment to which she really paid attention. This was always kept in good order; and here, when the weather permitted, she enjoyed the air, or sometimes sat and read by way of pastime: or else chatted on times past with any of the few remaining acquaintances whose visits she permitted. She seldom visited any person except Mr. Jones, a grocer at the corner of the square, with whom she dealt. She was so partial to the fashions prevailing in her youthful days, that she never changed the manner of her dress from that worn by ladies in the reign of George the First. She always wore powder with a large *toupet* made of horsehair on her head, nearly half a foot high, over which her front hair was turned up; a cap over it, which knotted under the chin, and three or four curls hanging down her neck. She generally wore silk gowns, the train long with a deep flounce all round, a very long narrow waist, very tightly laced up to her neck, round which was a ruff or frill. The sleeves of her gown, to which four or five large ruffles were attached, came below the elbow; a large straw bonnet, quite flat, high-heeled shoes, a full made black silk cloak trimmed round with lace, and a gold-headed cane completed her everyday costume for the last eighty years of her life, and in which habiliments she occasionally walked round the square, when she was uniformly spoken of as *Lady Lewson.* She never practised ablutions of any kind, or hardly in any degree, because, as she alleged, those persons who washed themselves were always taking cold, or laying the foundation of some dreadful disorder. Her method was to besmear her face and neck all over with hogs' lard, because that was soft and lubricating; and then, because she required a little colour in her cheeks to set off her person to advantage, she had used to paint them with rose-pink. Her manner of living was so methodical, that she would not take her tea out of any other than a favourite cup. She was equally particular with respect to her knives, forks, plates, &c. At breakfast she arranged, in a particular manner, the paraphernalia of her table; at dinner she always observed a particular rule as to the placing of the two or three empty chairs, by which the table was surrounded, but she herself always sat in one favourite chair. She constantly enjoyed an excellent state of health; assisted at all times in regulating the affairs of her household; and never, until a little previous to her decease, had an hour's illness. She entertained the greatest aversion to medicine; and, what is remarkable, though many such instances have been recorded, cut two new teeth at the age of 87, and was never troubled with the toothache. Towards the close of her life her sight failed her. She lived in five reigns, and was believed to be the most faithful living chronicler of the age. A few days previous to her decease, an old lady who was her neighbour died suddenly, which had such an effect upon her that she frequently said her time was also come, and she should soon follow. She enjoyed the use of all her faculties till that period, when she became weak and took to her bed, but steadily refused all medical aid; her conduct to a few relations was extremely capricious, and she would never see any of them; and it was not until a few hours before her dissolution that any relaxation in her temper was manifested."

The intellectual type of humanity occupies a fairly prominent position on the records of longevity. Hippocrates—"omnium Medicorum facile Princeps"—lived to the venerable age of 104, and gave his now too-little-studied "Aphorisms" to the world after he had attained the completion of his century. Democritus, the "laughing philosopher," who elaborated the atomic hypothesis of the constitution of matter, and who despised the recognised objects of human cares too much to ever look on any of them with a grave countenance, lived to the age of 109—"Magnus philosophus, et si quis alius ex Græcis vere physicus; regionum complurium, et multo magis naturæ ipsius, perambulator; sedulus quoque experimentator, et (quod Aristoteles ei objicit) similitudinum potius sectator, quam disputationum leges servans." Epimenides is said to have reached the age of 157—but his biography receives a decidedly mythical coloration from the tradition that 57 of those years were spent in a cave, in one continuous sleep. Xenophanes lived to 102—"vasti procul dubio conceptus, et nihil spirans nisi infinitum." Orbilius, the grammarian, is said to have reached the end of his century. Zeno, founder of the Stoic philosophy, lived 98 years—"Vir animo excelso, et opinionum contemptor, magni itidem acuminis, neque tamen molesti, sed quod animo magis caperet, quam constringeret." Gorgias lived to 108—"Vir rhetor, et prudentiæ suæ ostentator, et qui adolescens mercede accepta ut institueret." Isocrates, to 98—"Rhetor item, sed vir valde modestus, et lucem forensem fugiens, atque domi tantum scholam aperiens." Diogenes, the cynic, lived to the age of 90—"Vir erga alios liber, in se imperiosus; victu sordido et patientia gaudens." Plato, the academician, the prose-poet of Greek philosophy and theology, died at 81—"Vir magnanimus, sed tamen quietis amantior contemplatione sublimis et imaginativus, moribus urbanus et elegans; attamen magis placidus quam hilaris, et majestatem quandam præ se ferens."

Of the preservation of bodily health and intellectual vigour to an advanced old age the most prominent example at present before the world is that of the ex-premier of the British Empire. Even during the now expiring touring season of 1896 the political enthusiast, the literary hero-worshipper, the cosmopolitan globe-trotter, and the impertinent interviewer have, singly or in groups, completed their annual pilgrimages by the easy drive from the Chester terminus to the quiet little Welsh village of Hawarden—from which a hilly-hollow avenue, of considerable length but of otherwise moderate pretensions, leads to the residence of the most brilliant man of his generation. There, in his ultra-conservative-looking, castellated mansion, the gigantic mental powers of the retired Liberal leader have for some time been concentrated on the lines of study which necessarily form the best preparation for the future world, whose portals must soon open to receive him. The resulting tribute which he has just paid to the memory and doctrines of the great theologian who has helped so much to guide him in his spiritual difficulties is the best testimony that now can well be offered of the unflinching earnestness of purpose which through life has characterised his every undertaking.

It may here be noted that the career of Mr. Gladstone well illustrates the observation of Bacon, that variety of mental pursuits tends to the conservation of the mental powers. The brain, like the rest of the body, is the better for varied exercise; the continual focussing of the powers of thought in one direction undoubtedly leads to intellectual weakness—somewhat analogous to the physical ones of writer's cramp, hephæstic hemiplegia, miner's nystagmus, &c., which are, of course, more apparent to the ordinary observer. This fact furnishes the leverage for the experiments of the hypnotising charlatan; and also accounts for the very usual semi-imbecility of judgment exhibited by the professional "specialist"—even within his own domain, and the more than average ignorance which he almost invariably displays without it. The study of Bishop Butler has proved an inspiring guide, as well as intellectual recreation, for Mr. Gladstone; as that of a far higher authority, THOMAS A KEMPIS, has been for our own Sir Francis Cruise, whose literary tastes and artistic accomplishments correspond with, while they help to adorn, his high professional attainments. And those of us who know him best will be the first to express the hope that his theological curriculum will be at least as prolonged as that of the great English statesman.

(*To be continued.*)

MURDER IN ITALY.

PROF. BARON GAROFALO, who is recognised as one of the leading penologists of Italy, gave some statistics regarding the annual loss of life by homicide in Italy which were very startling. The total number of murders in Italy, during the last year, was about 4,000, which is equivalent, said the speaker, to a homicide every two hours. This is a very much greater mortality rate than exists in other civilised countries, the ratio in France being one-tenth of that in Italy, and the ratio in Denmark being one-thirty-fifth of that in Italy. This tendency to homicide is due, according to Baron Garofalo, first to the existence of the vendetta, which has lingered longer in Italy than in any other country; then, to the practice of duelling, and, perhaps more than all, to certain defects in education and to racial tendencies.—*Med. Rec.*

THE WHALE CURE FOR RHEUMATISM.

IT is reported that at the town of Eden, a place in Australia which stands on the shores of Twofold Bay, there is a hotel where rheumatic patients congregate. Whenever a whale has been taken the patients are rowed over to the works in which the animal is cut up, the whalers dig a narrow grave in the body, and in this the patient lies for two hours as in a Turkish bath, the decomposing blubber of the whale closing around his body and acting as a huge poultice. This is known as the "whale cure for rheumatism."—*Med. Rec.*

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

The Physiology and Pathology of the Cerebral Circulation: An Experimental Research. By LEONARD HILL, M.B. London: Churchill. 1896. Pp. 208.

THIS able and important essay contains much which will interest not only the professional physiologist, but also the practical physician and surgeon. It contains the substance of the Lectures given by the author as Hunterian Professor at the London College of Surgeons. It is divided into seven chapters. In the first chapter *the pulsations of the brain* are considered. It is shown that these movements actually take place in the closed cranium; that they are of cardiac and respiratory origin; that the relationship in which the brain stands to the general venous pressure is so close that normally the greatest expansion is in *expiration.* The cardiac pulse is transmitted to the cerebral veins. A limited amount of expansion of the brain is possible owing to the ebb of cerebro-spinal fluid into the vertebral canal, and to the diminution of the calibre of the cerebral veins and sinuses.

In the second chapter on the *Cerebro-spinal Fluid* it is shown that, although the subdural and subarachnoid spaces are anatomically distinct, yet that physiologically they are one, as a free passage of fluid can take place from one to the other; that if the fluid in these spaces is at any pressure above that of the cerebral venous pressure it escapes freely into the veins, so that no pathological increase of cerebral tension can be transmitted by the cerebro-spinal fluid; that the quantity of this fluid present in the cranium is very small, the brain with its circulating blood almost entirely filling the cranial cavity. It is shown that the brain may be irrigated safely through a single trephine hole, and it is suggested that in cases of meningitis this operation might be performed on men without risk.

In the third chapter, on the *Cerebral Circulation*, the absence of cerebral vaso-motor nerves and of every discoverable local vaso-motor mechanism is maintained. The cerebral circulation follows passively the changes in the general arterial and venous pressures, following the latter directly and absolutely, but varying only proportionately with the general arterial pressure. The intracranial pressure is in all physiological conditions the same as the cerebral venous pressure, and there is no compensatory mechanism by which the intracranial pressure is kept constant. It may vary with the circulatory pressure from zero to 50mm. Hg. without disturbance of the functions of the brain. The volume of the blood in the brain varies but slightly under physiological circumstances. A rise of arterial pressure accelerates the flow through the brain, and a fall slackens it. The cerebral circulation is controlled by the vaso-motor centre acting on the splanchnic area. There is no evidence of the causation of cerebral anæmia by spasm of the cerebral arterioles. Arterial hyperæmia does not produce any results of importance, while venous congestion is of great pathological significance.

In the fourth section, on the *Force of Gravity*, it is shown that this is a factor of the greatest importance in the circulation of the blood; that the hydrostatic effects of gravity in changes of position are compensated by the splanchnic vaso-motor mechanism—in the feet-down position the abdominal vessels contract; in the feet-up position they relax. That this compensation is much more perfect in upright animals as monkeys than in rabbits or dogs, and is probably most developed in man. When the power of compensation is damaged by paralysis of the splanchnic vaso-constrictors, induced by severe operative procedures or by injury to the spinal cord, the last stages of asphyxia, or by poisons such as chloroform, then the influence of gravity becomes of vital importance. Under such circumstances in the feet-down position the blood may drain into the abdominal veins, the heart become empty, and the cerebral circulation may cease. In this way death from chloroform may occur if the abdomen be lower than the head. The treatment will be to raise the abdomen above the head, to bandage or compress the abdomen, and, best of all, to perform rhythmic alternate compression of abdomen and thorax. There are subsidiary mechanisms which compensate for the effects of gravity to be found in the influence of different positions on the rate of the heart beat, and on the mode of respiration. This chapter is full of matter of the most vital practical importance to every physician and surgeon, and cannot be too carefully studied.

The fifth chapter is on *Cerebral Anæmia.* The rapid cessation of the cerebral circulation may be caused by—(1) occlusion of the whole cerebral arterial supply by ligature, embolism or compression; (2) occlusion of all the venous sinuses; (3) by bleeding from a large artery; (4) by sudden vaso-motor paralysis coupled with the effect of gravity. The usual sequence of symptoms thus induced is—(1) loss of consciousness; (2) respiratory spasm; (3) slow heart and rise of blood-pressure, with cessation of respiration; (4) fall of blood-pressure, acceleration of heart, death. These symptoms are comparable with those produced by asphyxia, and show that the bulbar centres are first excited, and then paralysed. The fatal symptoms arise only when the bulbar circulation ceases.

In man sudden anæmia of the cerebrum may cause Jacksonian epilepsy preceding the loss of consciousness. Vaso-motor paralysis may precede and cause respiratory paralysis, but the latter usually precedes and causes the vaso-motor paralysis. Poisons, such as chloroform and amyl-nitrite, by causing vaso-motor and cardiac paralysis, may produce symptoms comparable to the paretic symptoms of cerebral anæmia. The excitatory symptoms of cerebral anæmia may be absent if the animal is in a state of shock, or if the onset of the anæmia is slow. In partial anæmia of the bulbar centres Cheyne-Stokes' respiration and Traube-Hering pressure curves are common. In none of the animals examined does ligature of both common carotids and both vertebrals entirely cut off the blood from the brain. An anastomotic circulation is opened through the intercostal and ascending cervical arteries by way of the anterior spinal and basilar vessels. In goats, horses, nearly all rabbits, and about forty per cent. of cats, this anastomosis is too slight to maintain the activity of the bulbar centres, although its efficiency can be improved by gradual ligature of the four arteries. All dogs have survived the immediate effects of the quadruple ligature, and four have completely recovered after an initial period of paralysis and idiocy. There is every reason to believe that both common carotids can be safely tied in men if, with intervals of time between, each artery be gradually occluded by means of a screw clamp, so as to allow the expansion of the anastomotic pathways.

In chapter six is recorded an important series of observations on the *Metabolism of the Brain* as measured by the gaseous exchange. It is shown that both in rest and activity the combustion in the muscles is enormously greater than in the brain, and that the active metabolism of the latter, supposed to be demonstrated by Mosso's thermometric observations, does not exist. The low cerebral metabolism explains how the activity of the brain can continue when the blood supply is very largely reduced.

In chapter seven, on *Cerebral Compression*, it is shown that the brain does not transmit pressure equally in all directions; that a local rise of pressure cannot be permanently transmitted to other parts by the cerebro-spinal fluid, as this is rapidly absorbed; that there is a large amount of pressure discontinuity between the cerebral and cerebellar chambers, and complete pressure discontinuity between the cranial and vertebral cavities. This discontinuity is effected by (1) the viscosity of the brain substance; (2) by the tentorium cerebelli and falciform ligaments; (3) by the plugging of the isthmus tentorii cerebelli and the foramen magnum by the pushing downwards (translocation) of the brain mass. The major symptoms of compression are produced by the anæmia of the spinal bulb, and are absolutely comparable to the symptoms of acute cerebral anæmia otherwise produced. A far smaller foreign body kills in the bulbar region and in the cerebellar chamber than in the cerebral chamber. It is not the mechanical pressure, but the cessation of blood flow that produce these symptoms. Any pathological increase of cerebral pressure is circulatory in origin; a foreign body within the cranial cavity obliterates veins and capillaries, and raises the cerebral tension at the seat of obliteration from capillary to arterial pressure. A small opening into the cranial cavity does not necessarily relieve compression.

The foreign body must be removed, or the opening be large enough to allow an equivalent compensatory expansion of the cranial contents. In the latter case the viscosity of the brain mass may prevent the compensatory expansion, and local compression will then continue. Where the primary compression is extensive, the secondary increase of compression can be brought about by congestive or inflammatory œdema, and by a rise of arterial pressure. A circulus vitiosus is established. A similar vicious circle can also be established in cases of embolism, meningitis, cerebral abscess, ventricular hydrocephalus, and cerebral tumour. The danger of this circulus vitiosus increases in proportion to the size of the primary area of vascular obliteration.

An admirable feature in this work is the summary of conclusions which the author gives at the end of each chapter. The above is mainly a transcription of these conclusions. For the methods of research and for many most important and interesting details we must refer our readers to the work itself.

A Text-book of Bacteriology. By GEORGE M. STERNBERG, M.D., LL.D., Surgeon-General, U. S. Army; Ex-President American Public Health Association; Honorary Member of the Epidemiological Society of London, of the Royal Academy of Medicine of Rome, of the Academy of Medicine of Rio de Janeiro, of the Société française d'Hygiene, &c., &c. London: J. & A. Churchill. 1896. Large 8vo. Pp. 693.

THIS splendid work by a master-hand must be regarded as a sterling contribution to the fast-growing literature of Bacteriology. Large as the volume before us is, it may be considered to be an abridgment of the author's "Manual of Bacteriology," published in 1892. In his preface Dr. Sternberg writes:—"For the benefit of students of medicine and others who do not care especially for the detailed descriptions of non-pathogenic bacteria and the extensive bibliography contained in the Manual, this Text-book of Bacteriology is now published. It comprises that portion of the Manual above referred to as printed in large type, revised to include all important additions to our knowledge of the pathogenic bacteria since the original date of publication "

The book is divided into four parts, each of which is devoted to a separate subject, and is sub-divided into sections instead of chapters.

The first part is devoted to classification, morphology, and general bacteriological technology. It opens with a brief historical review of the discoveries made in the fertile field of bacteriological research from the time of Leeuwenhoeck, "the father of microscopy" (1675), up to the present day.

We venture to quote the opening sentences of the second section on "Classification" as a specimen of the author's clear, flowing language. He writes (page 10):—"The earlier naturalists—Ehrenberg (1838), Dujardin (1841)—placed the bacteria among the infusoria; but they are *now recognised as vegetable microörganisms*, differing essentially from the infusoria, which are unicellular animal organisms. One of the principal points in differentiating animal from vegetable organisms amongst the lowest orders of living things is the fact that animal organisms receive food particles into the interior of the body, assimilating the nutritious portion, and subsequently extruding the non-nutritious residue; vegetable organisms, on the other hand, are nourished through the cell wall which encloses their protoplasm, by organic or inorganic substances held in solution."

Speaking of bacteria as saprophytes and parasites, Dr. Sternberg points out that the pathogenic organisms, which are known to us to-day only as strict parasites, were probably at some time in the past saprophytes. "The tubercle bacillus, for example, is known to us only as a parasite which has its habitat in the lungs, lymphatic glands, &c., of man and of certain of the lower animals. But we are able to cultivate it in artificial media external to the body; and it is in accord with modern views relating to the development of species to suppose that at some time in the past it was able to lead a saprophytic existence. Not to admit this forces us to the conclusion that at some time subsequent to the appearance of man and the lower animals in which it is now found as a parasite; it was created with its present biological characters, which restrict it to a parasitic existence in the bodies of these animals, and that, consequently, the immense destruction of human life which has resulted from its parasitic invasion of successive generations was designed when it was created."

The greater portion of the first part is given up to what the author calls "General Bacteriological Technology." but this strikes us as a very stilted heading. Surely "Methods of Bacteriological Research" would be a better title.

At pages 38 and 63 the author describes culture flasks which he designed, and which he has been using constantly since 1881. These ingeniously constructed little flasks are now generally known as "Sternberg's bulbs."

Perhaps the most interesting section in this part is No. XII., in which the process of photographing bacteria is described and explained. That the art has already reached a high degree of perfection is proved by the beauty and finish of most of the photomicrographs which illustrate Dr. Sternberg's book.

In Part II. the general biological characters of bacteria are considered, and an account is given of the action of antiseptics and germicides. Section I. opens with a handy definition—"The bacteria," says Dr. Sternberg, "are unicellular vegetable organisms, and consist of a *cell membrane* enclosing transparent and apparently structureless *protoplasm.*" He shows, however, that there are essential differences in the living cell contents in various species, although these differences are not revealed by the optical appliances at our disposal. He also thinks it is probable that among these lowly plants species are evolved more speedily, as a result of the laws of natural selection, in the struggle for existence, than among those of more complex organisation. At the same time he admits that this has not been proved.

The biological characters of bacteria may be modified in various ways, as is shown in Section III. In general, pathogenic virulence is increased by successive inoculations into susceptible animals, and diminished by cultivation in artificial media under unfavourable conditions, or in the blood of an immune animal. In illustration of the last point, the experiments of Ogata and Jasuhara show that when the anthrax bacillus is cultivated in the blood of an immune animal, such as the dog or the white rat, its pathogenic power is modified so that it no longer kills susceptible animals, and may be used as a "vaccine."

We have never met a clearer account of putrefactive fermentation than that which is given at pages 138 and 139 in Section IV. of the Second Part, and the same remark applies to Section V., in which the very difficult subject of ptomaïns and toxalbumins is discussed. Among the toxic ptomaïns mention is made of *typhotoxin*, which was first obtained by Brieger from bouillon cultures of the typhoid bacillus which had been kept for a week or more at a temperature of about 37·5° C. In mice and guinea-pigs this base produces salivation, rapid respiration, dilatation of the pupils, diarrhœa, and death in from twenty-four to forty-eight hours. It is believed by Brieger that the specific action of the typhoid bacillus is due to the production of this ptomaïn (page 145).

The name "toxalbumins" was applied by Brieger and Fränkel to very toxic substances of a different nature from ptomaïns, which they discovered in 1890 in cultures of some of the pathogenic bacteria. Toxalbumins have been obtained from *Bacillus diphtheriæ*, *B. typhosus*, *B. tetani*, *Staphylococcus aureus*, *Spirillum choleræ*, and (by G. and F. Klemperer in 1891) *Micrococcus pneumoniæ crouposæ* (*Diplococcus pneumoniæ*). Koch's *tuberculin* is defined as "a glycerin extract of the toxic substances present in cultures of the tubercle bacillus" (page 148).

In Section VI. of this Part the influence of various physical agents on the growth of bacteria is considered. Heat, dry and moist, desiccation, light, electricity, pressure, and agitation are all shown to have a more or less inimical action on their development and even their existence. In 1894 Meltzer showed that their vitality is destroyed by protracted and violent shaking, which causes a molecular disintegration of the cells. As regards the influence of light, Ward's experiments (1892–1894) go to prove that the blue and violet rays have decided germicidal power, while the rays at the red end of the spectrum are comparatively inert. This corresponds with results previously reported by Arloing.

At the beginning of Section VII., which gives a general account of antiseptics and disinfectants, Dr. Sternberg gives us a new definition of these words. He restricts the use of the term "antiseptic" to agents capable of restraining the development of microörganisms which produce septic decomposition *without destroying their vitality.* The complete destruction of vitality is effected by *germicides* or disinfectants. All disinfectants are also antiseptics, but the converse is not true. Thus a concentrated solution of salt or of sugar will prevent the putrefactive decomposition of organic material, animal or vegetable; but these agents do not destroy the vitality of the germs of putrefaction. In the same way many mineral salts in solutions of various strengths act as antiseptics, and some of these in still stronger solutions are disinfectants. Dr. Sternberg instances mercuric chloride, of which a solution of one in 300,000 will restrain the development of anthrax spores, whereas a solution of one in 1,000 must be used to insure the destruction of these spores.

The succeeding sections are devoted to a consideration of the action of various substances upon bacteria. It will interest many to learn, on the authority of Tassinari, that tobacco smoke restrains the development of bacteria, and that certain species failed to develop after exposure for half an hour in an atmosphere of tobacco smoke—for instance, the spirillum of cholera and Friedländer's bacillus.

Part II. concludes with a section on practical directions for disinfection, based in great measure on "conclusions" arrived at in 1887, by the Committee on Disinfectants of the American Public Health Association.

"Pathogenic Bacteria" form the subject-matter of Part III., which naturally forms the pivot on which the work turns. The first three sections are introductory, and in them the author treats of the modes of action of the pathogenic bacteria, the channels by which they infect the system, and susceptibility and immunity. As regards the latter, he names the exhaustion theory of Pasteur and the retention theory of Chauveau only to reject them in favour of the vital resistance theory put forward by himself many years ago. According to this doctrine, immunity depends upon an acquired tolerance to the toxic products of pathogenic bacteria. Experiment also shows that in certain diseases acquired immunity depends upon the formation of antitoxins in the bodies of immune animals.

Nearly 350 pages are given up to an account of the various pathogenic bacteria and the diseases they produce. It may be novel to some of our readers to learn that the *Micrococcus pneumoniæ crouposæ* (*Diplococcus pneumoniæ*) plays an important rôle in the causation not only of acute (croupous) pneumonia, but also of broncho-pneumonia, cerebro-spinal meningitis, empyema, endocarditis, influenza, measles, otitis media, ozæna, párotitis, pericarditis, peritonitis, and acute fibrinous pleuritis. In relation to scarlet fever, Dr. Sternberg passes over Dr. Klein's researches in silence, and goes so far as to say that "the specific infectious agent in scarlet fever has not been demonstrated."

The fourth and concluding Part of the work treats of saprophytes as they exist in the air, water, and soil. There are also sections descriptive of the presence of bacteria, both pathogenic and saprophytic, on the surface of the body and of exposed mucous membranes, such as the conjunctivæ, in the stomach and intestine, in cadavers and putrefying material from various sources, and in articles of food, such as milk, meat, butter, bread, and eggs.

A full index brings this very valuable and well-written work to a close.

Étude Physiologique sur les Dinitriles normaux. Toxicité relative. Phénomènes et Méchanism de l'Intoxication. Action antitoxique de l'Hyposulfite de Sou de vis-a-vis de l'Action toxique des Dinitriles. Par les Docteurs J. F. Heymans et Paul Masoin. Bruxelles. 1896. Pp. 116.

In this valuable memoir, published by the Belgian Royal Academy of Medicine, the authors record their experiments on the physiological action of the four first members of the series of the normal dinitriles whose general formula is $CN—(CH_2)_n—CN$. These are cyanogen $CN—CN$; malonic nitrile $CN—CH_2—CN$; succinic nitrile $CN—(CH_2)_2—CN$; and pyrotartaric nitrile $CN—(CH_2)_3—CN$. The experiments were chiefly on frogs, rabbits, dogs, and pigeons;

but many other animals were also employed. The work is one of the highest merit, and a most important contribution to the subject of experimental toxicology.

Surgical Diseases of the Ovaries and Fallopian Tubes, including Tubal Pregnancy. By J. BLAND SUTTON, F.R.C.S. New and Enlarged Edition. One hundred and forty-six Illustrations. London: Cassell & Co., Limited. 1896.

THOSE who are acquainted with the first edition of this work will not require the stimulus of a review to make them anxious to procure this, the second edition. The copious illustrations, the letterpress, and the binding of this work leave nothing to be desired, and reflect the highest praise on the eminent firm of publishers. The book itself, however (though excellent on the whole), has hardly fulfilled our expectations, and this is due to the fact that the author, by his former writings, has set us such a high ideal of perfection.

The work before us is divided into five sections, and contains fifty-four chapters; these run on irrespective of the sections, and so make the discovery of different Divisions a task of some difficulty.

Chapter I. deals with sex and the genital gland; Chapter II. with menstruation—it will be found most interesting reading. The author reiterates his well-known views on the structural changes which occur during the course of this excretion, and goes on to say: "Evidence is rapidly accumulating to show that menstruation and ovulation are not so closely connected as was formerly believed."

In Chapter IV. the observations of Winckel and other writers are called in question concerning their views on the occasional presence of a third ovary. And again, towards the end of the book, when facing the difficult problem of persistence of menstruation, in spite of the removal of both ovaries, the author puts in enlarged type the following sentence: "There is no authentic instance of a third ovary." Many of the older views as regards extra-uterine fœtation are ruthlessly torn up. "The belief that an ovum may be fertilised in its follicle and engraft itself upon the ovarian tissues and develop into a fœtus has no foundation in fact." The author has little faith in the majority of cases of reputed inflammation of the ovaries apart from tubal disease, and believes the enlargements felt at either side of the uterus in patients suffering from dysmenorrhœa to be due not to the ovaries but rather to the tubes, which have become enlarged by catarrhal inflammation.

On the question of dermoids occasionally exhibiting signs of malignancy, Dr. Sutton's views have undergone some modification; he now says: "My subsequent investigation has, however, failed to detect a single instance which can be used to prove recurrence after removal of a dermoid."

When discussing the methods for diagnosticating ovarian tumours, we read that "in uncomplicated cases the information furnished by vaginal or rectal examination is negative." Thus Hegar's sign—the palpation of the pedicle—is completely ignored, though this is the most valuable of all methods for determining the presence of an ovarian tumour.

In speaking of the symptoms given rise to by an acutely twisted pedicle, Dr. Sutton sums them up in the following terse manner:—"Clinical observations demonstrate that the predominant signs of acute axial rotation of abdominal tumours and viscera are those common to a strangulated hernia, minus stercoraceous vomiting."

Amongst the rarer conditions that may be mistaken for ovarian tumours, the author has seen two kidneys which were in each case displaced into the hollow of the sacrum.

Wandering and enlarged spleens, too, have on many occasions been mistaken for ovarian tumours, and Mr. Lawson Tait is said to have opened the gall bladder in a similar belief.

Tubal pregnancy is fully described in Part III., and we read that "the evidence now indicates that a healthy Fallopian tube is more liable to become gravid than one which has been inflamed."

The hæmorrhage giving rise to tubal mole is shown to be of fœtal origin, and to occupy the subchorionic chamber, or, in other words, to lie between the chorion and amnion

The author applies the term tubal abortion to the ejection of an impregnated ovum out of the tube into the peritoneal cavity, and this not due to rupture, but by reason of the insufficient closure of the abdominal ostium. Berry Hart is quoted as proving conclusively that no true growth of the placenta can occur after the death of the fœtus, and—again agreeing with Hart—the author says "there is no such condition as a primary abdominal pregnancy, all forms of extra-uterine gestation pass their primary stages in the Fallopian tube."

The greatest success in this work is not achieved when the author deals with diagnosis and treatment, and we regret to find many resources of modern surgery completely ignored.

Part V. is devoted to methods for performing operations for ovarian and tubal disease.

This section is voluminous as compared with the remainder of the book, and yet we regret to think the information gained by its perusal will barely repay the reader for time occupied in wading through some fifty-three pages.

In conclusion we have to notice a fairly perfect index of authors, as well as an accurate general index, and most heartily commend the work to those of our readers who have not as yet possessed themselves of a copy.

Clinical Diagnosis: A Practical Hand-book of Chemical and Microscopical Methods. By W. G. AITCHISON ROBERTSON, M.D., D.Sc., F.R.C.P.E. London: The Scientific Press, Ltd. 1896. Pp. 366.

THIS little book consists of a description, in the fewest words possible, of the various microscopical and chemical methods of procedure in clinical diagnosis. Its brevity is remarkable: not a word is wasted—in fact, we are reminded of those editions of Euclid in which to save space all kinds of abbreviations are used. In this work the sign = is constantly employed. The result of this brevity is that a great deal of information is contained in a small space; in fact, we have been surprised at the amount contained in this work. We might perhaps best give an idea of the work by quoting some of its contents (taken at random from different chapters):—

"DESMODEX (*Sic.*) FOLLICULORUM.
Found in sebaceous glands of Nose.
Cheeks.
External auditory meatus.
Microscopically—
Long narrow animal.
Four pairs of short legs anteriorly.

"PEDICULI (Lice).
(I) PEDICULUS CAPITIS.
Found in hair of scalp.
Head—mouth small, tubular, with sucker.
Body flat.
transparent.
segments distinct.
Legs—three pairs.
short.
clawed.

"PULSE RATE.
Normal Frequency—
Adult male, 65–75.
Adult female, 70–80.
Children—varies with age, 80-90.
(*a*) *Increased frequency of Pulse Beat*—
(1) Fevers (except enteric and occasionally meningitis).
(2) Great debility.
(3) Nervous diseases, as
Exophthalmic goitre.
Hysteria.
(4) Mitral regurgitation.
Occasionally also in aortic regurgitation."

and so on.

The chief disadvantage we see in this brevity is that it causes many statements to be too dogmatic. It is not possible in so few words to include exceptions to the general rule. Thus, we find under the heading Sugar in Urine (glycosuria) the statement, "High specific gravity (above 1030) along with pale colour." Saccharine urine often has a very high specific gravity, but it is a mistake to imagine it always has. Trichomonas vaginalis is included in the description of vaginal secretion as if its presence was as normal as that of squamous epithelial cells. Curiously enough, the description of gonococci is included under the heading "Seminal Fluid."

There are a good many woodcuts of urinary deposits, microbes, &c., but they are so coarsely and roughly drawn we have no hesitation in saying they are simply disgraceful.

A great deal of information may be derived from this work, but it should be assimilated *cum grano salis.* Such general principles as it asserts will not be found to exist in practice; and the reader must expect to find that in clinical medicine, as elsewhere, there is no rule without its exception.

The Biological Problem of To-day; Preformation or Epigenesis? The Basis of a Theory of Organic Development. By PROFESSOR W. OSCAR HERTWIG. Authorised Translation by P. CHALMERS MITCHELL, M.A. London: William Heinemann. 1896. Pp. 148.

THIS volume, which forms one of Heinemann's series of scientific hand-books, contains an exceedingly valuable criticism of the now well-known views of Weissmann on heredity and development. The competence of Professor Hertwig to offer such a criticism is unquestionable, and no one who reads this work can fail to acknowledge the force and cogency of the arguments adduced against the preformation theory, and to recognise the fairness and impartiality displayed at each stage of the argument.

The difficulty of the subject is very great, and the number of unfamiliar terms employed increases the labour of reading the work in the original. Indeed, to anyone who is not a biologist the discussion would be, in many parts, all but unintelligible. The excellent translation before us is, therefore, a very welcome addition to English scientific literature, and cannot fail to greatly extend the knowledge of the present condition of one of the most important and interesting biological problems which are at present agitating the minds of scientific men.

Not only has the translator successfully overcome the difficulties of finding appropriate English terms for many

German words very hard to render into another language, but he has written himself a short introduction, in which the general problem is stated in such a way as to make it intelligible to general readers.

Our space would not admit of our following the author through his reasoning, or of giving the grounds on which he opposes the views of Weissmann. We can only say that Hertwig endeavours to reconcile the opposition between evolution and epigenesis by assuming a germ plasm of high and specific organisation, while he believes that it is transformed into the adult product by epigenetic agencies. Such a theory does not pretend to explain all the problems involved in the course of organic development. In this it differs from Weissmann's theory of determinants, which is a closed system, professing to explain everything, but by its very nature barren to investigation, as there is no means by which investigation may put it to the proof.

We need only repeat our sense of the very great value of Professor Hertwig's work, and of the great excellence of the translation, and recommend the volume most heartily to the consideration of our readers. The very full glossarial index appended to the text cannot fail to increase its usefulness to the general reader.

Edinburgh Hospital Reports. Published under the Supervision of the Editorial Committee of the Royal Infirmary, Royal Hospital for Sick Children, and Royal Maternity and Simpson Memorial Hospital. Edited by G. A. GIBSON, M.D., D.Sc.; C. W. CATHCART, M.A., M.B.; JOHN THOMSON, M.D.; D. BERRY HART, M.D. Vol. IV. Edinburgh and London: Young J. Pentland. 1896. Pp. 606.

THIS handsome volume contains forty-seven papers, all of interest and importance, besides forty-six pages of statistical matter. It is well brought out, and copiously illustrated by plates and figures in the text.

The papers deal with an immense variety of subjects. Dr. Carmichael gives a description of the new Royal Hospital for Sick Children, recently erected at a cost of £40,000; Mr. Easterbrook pleads for a more natural and uniform clinical method, and gives some valuable clinical axioms and memoranda. In an interesting paper Mr. Ker gives the results he has got in the treatment of typhoid fever by the naphthols—hydronaphthol, benzonaphthol, and naphthol β. were employed. It was found that they do no injury to the patient. They do not influence the duration of the disease. They diminish the offensiveness of the stools and control tympanites. They do not affect the pyrexia, or the progress of the ulceration, and they do not prevent relapse. An exceedingly valuable paper, by Mr. Leith, deals with phlegmonous gastritis. In this work a case of the diffused form is recorded; the whole subject is considered, and a very extensive review of the literature is given. It is probably the most important contribution to our knowledge of this rare and dangerous disease which has as yet appeared.

Dr. J. Thomson records two cases of congenital hypertrophy of the pylorus and stomach wall—a condition which he attributes to a derangement of the nervous mechanism which regulates the contraction and relaxation of the pylorus under appropriate stimuli. Two papers—one by Dr. Russell, the other by Dr. Muir—deal with necrotic hæmorrhagic pancreatitis, a condition difficult of recognition and probably often overlooked. Dr. Gillespie studies the effect of carbonic acid on gastric digestion, and comes to the conclusion that effervescent drinks should be given in the acid type of dyspepsias before or with food; in the atonic varieties after food. Dr. Stockman records a case of pernicious anæmia, with distension of the large intestine; and Drs. Byrom Bramwell and Gulland report a most curious and interesting case of calcareous degeneration of the heart and arteries occurring in a patient, one of whose kidneys was atrophied and the other cirrhotic. A case of purulent pericarditis treated by drainage, and proving fatal by repeated hæmorrhage, by Dr. Underhill; a paper by Dr. Gibson on cardiac pain and its relief; and a remarkable case of intra-thoracic tumour, by Dr. Affleck, follow. Dr. Gibson writes on pneumothorax produced by physical exertion, and Dr. Hutton on the causation of sudden death in empyema—a subject which he has investigated experimentally in animals. A valuable paper on so-called epispadias in women, by Dr. Ballantyne, gives a new case and an extensive review of the literature of this interesting malformation. Dr. Gulland records a not very encouraging series of experiments on the effects of drugs, given internally, on bacteriuria; and Dr. Jamieson writes on diffuse infiltrated scleroderma and cancer *en cuirasse*. Several papers on diseases of the nervous system follow. The Coincidence of Facial Paralysis with acute Anterior Poliomyelitis, by Drs. Gibson and Cattanach; Facial Paralysis and Sense of Taste, by Dr. Turner, in which paper the paralysis of the soft palate is also considered; Cervical Opisthotonos in Children, by Drs. Beattie and Selby; Functional Laryngeal Motor Paralysis, by Dr. A. L. Turner; So-called Causeless Hemiplegia, by Dr. Philip; Cases of Aphasia, by Dr. Stalker; a Case of Loss of Speech in a Child, with Gradual Recovery, by Dr. Lundie; Degenerative Changes in the Brain-cells of the Non-Insane, by Dr. Hutchison, who shows with what caution we must proceed in deciding as to whether or not the ganglionic cells are really in an abnormal condition. Two papers on the Causation of Hæmatoma Auris, by Dr. Robertson and Dr. Welsh; one on the Thyroid Treatment of Insanity, by Dr. Bruce; and Dr. Gillespie's Notes on the Medical Statistics of the Royal Infirmary, conclude the papers on medical subjects.

The surgical papers are of no less interest and variety. Dr. Miller writes on the Teaching of Clinical Surgery; Professor Chiene continues from a former volume his Practical Observations in Surgery; Mr. Wallace deals with the administration of chloroform, which he maintains should be undertaken on four definite principles—1. The patient should be in the recumbent position. 2. Plenty of chloroform should be given. 3. The respiration should be absolutely free, and, along with the appearance of the face, should be alone considered as a guide to safety. 4. The patient should be thoroughly "under" before any operative interference is begun. Dr. Duncan contributes a most important and encouraging paper on Laparotomy in Tubercular Peritonitis. Of twenty-one cases "one died two years after the first operation, the abdomen having been reopened several times to relieve tension. In three the abdomen, when last seen, was still somewhat swollen and resistant; one patient, aged twenty-eight, returned on account of localised abscess in the neighbourhood of the wound; and one, aged five, with a fæcal fistula; while another, aged six, has recently come to the Infirmary to be treated for tubercular elbow, with the abdomen perfectly well. The others recovered, to all appearance completely, and have remained well for varying periods up to four years." Dr. Lundie records a successful case of laparotomy for perforation of gastric ulcer; Drs. Gibson and Thomson two cases of resection of pylorus for cancer—one fatal from septic peritonitis, the other successful. Drs. Stockman and Caird report the favourable result of pyloroplasty and Bircher's operation in a case of dilatation of the stomach. Mr. Cotterill details the particulars of a case of hepatic abscess, complicated by double pneumonia and pleurisy, and terminating in cure; and Dr. Bell contributes clinical notes on some varieties of osteomyelitis. Dr Stiles writes a long and important paper on the Morbid Anatomy and Pathogenesis of Chronic Internal Hydrocephalus, founded on the Examination of Two Cases by the Method of Frozen Sections. Dr. M'Laren records three cases of intracranial suppuration following middle ear disease, all terminating fatally. Dr. A. Thomson gives Four Cases of Perforating Ulcer of the Foot; Mr. Cathcart writes on Inflammation of the Prostate. A contribution to intraocular therapeutics, by Dr. Berry; a paper on the Time for Operating in Unilateral Cataract, by Dr. Sym; and one by Professor Simpson on Double Salpingo-Oophorectomy in the Treatment of Uterine Fibroids, conclude the volume.

Our readers will see the wide range of subjects dealt with by the authors of these papers, and will get some idea of the great value of the volume, of which the Profession in Edinburgh may justly feel proud.

Kirkes' Handbook of Physiology. By W. D. HALLIBURTON, M.D., F.R.S. Fourteenth Edition. London: John Murray. 1896. Pp. 851.

THIS edition of Kirkes' Physiology is really a new book. Professor Halliburton has completely re-arranged the matter, and re-written almost every page. While many of the old illustrations, whose beauty helped to make the former editions so popular, have been retained, numerous additions have been made, so that the drawings now number 661, as against 516 in the thirteenth edition.

The remodelling of the text has been effected without adding to the bulk of the volume. The number of pages is 851, as against 884 in the thirteenth edition.

In the older editions the so-called vegetative functions were first dealt with, and after the blood, circulation, respiration, digestion, excretion, and metabolism had been disposed of, the nervous system and the special senses came under consideration. But in the present edition Professor Halliburton has adopted a different order. After chapters on the cell and the simple tissues, general muscle and nerve physiology is treated of in nine chapters. Then comes the physiology of the nerve centres, followed by that of the organs of special sense, and then the vegetative functions are taken up in the usual order, except that the circulation of the blood is described before the blood itself is dealt with. Another peculiarity is the intercalation of a chapter on voice and speech between the chapter on hearing and that on vision.

For the way in which the different subjects are treated we have nothing but praise. The style is easy and clear, while the descriptions are in all cases well up to date.

As in former editions account is always taken of the requirements of medical students, for whose use the work has from the first been specially written. A distinguishing feature in Kirkes' has always been the space allotted to histology. In the present issue this feature has been retained and extended, so that in its pages the student will find a good account, not only of the functions, but of the minute anatomy of the body, illustrated by beautiful drawings taken from the best and most recent sources.

On the whole this edition may be recommended in the strongest terms to all medical students of physiology, as one of the very best text-books in existence on the difficult and important subject with which it deals, and we cannot doubt that its popularity will equal or surpass that of the former editions.

PART III.

SPECIAL REPORTS.

REPORT ON PRACTICE OF MEDICINE.

By Henry T. Bewley, M.D. Univ. Dubl.; F.R.C.P.I.; Assistant Physician to the Adelaide Hospital; and Lecturer on Medical Jurisprudence in Trinity College, Dublin.

I. ON TAPPING THE VERTEBRAL CANAL.
II. CASES OF RECOVERY FROM TUBERCULAR MENINGITIS.
III. ON THE CLINICAL DIAGNOSIS OF DIPHTHERIA.
IV. THE CAUSE OF SUDDEN DEATH AFTER INJECTIONS OF ANTITOXIN.
V. ON APYRETIC TYPHOID FEVER.
VI. TRANSFUSION OF BLOOD IN SEVERE CHRONIC ANÆMIA.
VII. ADDISON'S DISEASE TREATED WITH EXTRACT OF SUPRA-RENAL CAPSULES.

I. TAPPING THE VERTEBRAL CANAL.

This method of diagnosis was first suggested by Quincke in 1891, but was not much employed. Recently, however, evidence is accumulating as to its value in certain cases. The procedure depends on the fact that communication exists between the subarachnoid space surrounding the spinal cord on the one hand and the cerebral subarachnoid and ventricular spaces on the other.

The tapping is carried out as follows:—A large-sized hypodermic needle is inserted between the 3rd and 4th, or 4th and 5th, lumbar vertebræ, either in the middle line exactly between the spinous processes, or else a little to one side. The needle readily enters the spinal canal, and if in the right place can be moved about freely. Aspiration need not be used, as in cases where there is any excess of cerebro-spinal fluid it comes away freely through the needle. While the needle is *in situ* the patient should not make any active movements, lest the needle be broken. The patient should be sitting up, supported by attendants if necessary, and his body should be bent forwards. If necessary an anæsthetic may be given, but in semi-comatose patients it will not be needful.

Quincke recommended this treatment to relieve pressure symptoms in acute hydrocephalus, and in order to distinguish between purulent and tubercular meningitis. In some cases pus cocci have been found; in others tubercle bacilli.

In tubercular meningitis the fluid is always clear and watery; in other forms of meningitis it is cloudy or turbid.

Dr. Caillé reports four cases. In two cases of tubercular meningitis bacilli were found in the flaky sediment that subsided when the fluid stood for 24 hours. In a case of acute mania in a woman 50 cc. (1¾ oz.) of clear serum came freely; the needle entered the vertebral canal at a depth of 4 centimetres (1½ inches). He says this is a safer procedure in chronic hydrocephalus than tapping the ventricles.—*N. Y. Med. Jour.*, June 15, 1895.

On the Clinical Value of Spinal Puncture.—Dr. Fürbinger gives statistics of 86 cases, in which in all over 100 punctures were made. He says there is no difficulty in making the puncture; and he met with no accidents. Anæsthetics are not needed. The patient should be in the sitting position during the procedure. The puncture is only painful if aspiration is employed to suck out fluid: this should never be done. He attaches no diagnostic importance to the amount of fluid which drops or flows through a canula with a lumen of 1 mm. ($\frac{1}{25}$th inch) in diameter. Sometimes a little blood from the puncture wound is mixed with the fluid. Slight symptoms of irritation in the legs are of no importance; serious lesions never follow the puncture.

As far as clinical results are concerned, the most important information was gained in cases of tubercular meningitis. In 30 out of 37 cases of this disease tubercle bacilli were found in the fluid by microscopic examination. The centrifuge is not needed; the bacilli are most readily found in the little fibrinous particles floating in the fluid. In no case had the puncture any effect in curing the cases.

In two cases, from the bloody nature of the fluid, the diagnosis was correctly made that a hæmorrhage had burst into the ventricles; seeing, however, that the puncture occasionally causes bleeding, such a diagnosis must always be somewhat open to doubt.—*Berlin. klin. Wochenschrift*, 1895, No. 13.

Lichtheim (Königsberg), in the same number of the *Berlin. klin. Wochenschrift*, writes on the same subject. Not much therapeutic result is to be expected from the puncture; it is, however, a most important aid to diagnosis. In all cases of purulent inflammation in the cranial cavity a spinal puncture should be made in order to exclude the presence of purulent meningitis before any operative measures are undertaken. In most cases of purulent meningitis streptococci were found; in one case, however, the fluid was sterile.

In tubercular meningitis the fluid was usually clear, containing a few leucocytes; in a few cases it was cloudy. Very often bacilli may be found in it, though they may be few in number and hard to find; but by examining the particles of lymph in the fluid and by the use of the centrifuge, Lichtheim always succeeded in finding them.

In one of his cases, headache, giddiness, and pains in the chest and legs came on to an alarming degree during the puncture.

Lumbar Puncture.—In an interesting article on the above subject, Jacoby reports two cases of spinal hæmorrhage in which this procedure was made use of with beneficial results.

Both cases followed direct injury from falls, the symptoms being a more or less complete numbness of the lower extremities, with loss of control over the sphincters and anæsthesia below the point of injury. The numbness of the limbs followed shooting-pains in the back in both cases. The objective signs were bruising of the integument over the injured area, without signs of fracture or dislocation, and the numbness and loss of power above mentioned. The diagnosis was made in each case of intra-meningeal spinal hæmorrhage with compression of the cord.

In one instance fifteen and in the other twenty cubic centimetres of blood were drawn by lumbar puncture, confirming the diagnosis. One patient who had had marked pressure-symptoms very quickly showed improvement following the procedure, but a certain amount of weakness of the lower limbs remained permanently.

In the second case the recovery was slower, but more complete. Jacoby does not insist on the curative agency of the lumbar puncture, but holds that at any rate it must reduce the local pressure and leave less blood in the spinal canal to be absorbed. Of the diagnostic value of the procedure in similar cases there is no doubt.—*New York Medical Journal*, January 4, 1896, and *Amer. Jour. Med. Sci.*, March, 1896.

Lumbar Puncture of the Subarachnoid Space.—A. H. Wentworth summarises the results of some experimental work on the subject as follows:—1. The normal cerebro-spinal fluid contains neither cells nor fibrin, and is perfectly clear. 2. In cases of meningitis the cerebro-spinal fluid is invariably cloudy when withdrawn. The degree of cloudiness is to some extent proportionate to the amount and character of the exudation in the meninges. 3. The cloudiness is caused by cells. The character of these differs according to the variety of the meningitis. After withdrawal, more or less fibrin is formed in the fluid. The presence of these cells and fibrin is pathognomonic of inflammation in the meninges. 4. The cloudiness is oftentimes so slight that close observation is necessary to detect it. 5. The operation is not difficult to perform on infants and children. It is not dangerous if strict cleanliness is observed. 6. The differential diagnosis between the various kinds of meningitis can be made by microscopic examination of the sediment, by cultures taken from the fluid, and by inoculation experiments. 7. Inoculation experiments afford the surest means of determining tuberculous meningitis. It is of value to distinguish between the varieties of meningitis in order to determine if tuberculous meningitis is recovered from. 8. In the normal fluid a faint trace of albumin is usually present, about one-fiftieth of 1 per cent. or less by quantitative analysis. In meningitis the amount of albumin is increased, and has varied from one-thirtieth to one-tenth of the 1 per cent. 9. In one case a diagnosis of general infection with the Staphylococcus pyogenes aureus was made from cultures taken from the cerebro-spinal fluid.—*Archives of Pedriatrics*, Aug., 1896, and *B. M. Jour. Suppl.*, Sept. 5, 1896.

II. RECOVERY FROM TUBERCULAR MENINGITIS.

To the few cases positively recognised, Janssen, of Maastricht, adds the following:—An infantry corporal, nineteen years of age, was admitted to the hospital on account of headache, stupor, and pain in the extremities. The previous history was negative; no tuberculosis; no syphilis. The headache was chiefly frontal. The conjunctivæ were injected, the pupils unequal; no strabismus. There was frequent vomiting; the bowels were confined; pulse 92, dicrotic; respiration superficial. The diagnosis of meningitis was confirmed by the after-history. The pulse became slower, reaching 42; the temperature was only moderately elevated; headache, often most intense, persisted; dilatation of the pupils, strabismus, opisthotonos, taches cérebrales, hyperæsthesia of the skin, contractures in the left knee, involuntary evacuation of urine and fæces, sordes on the lips, teeth, and tongue, and complete unconsciousness appeared. Sixteen days after admission the condition improved, and a month later the patient was discharged well. Later, symptoms of pulmonary tuberculosis came on, and the man died three months and a half after the onset of the meningitis. The autopsy revealed masses on both sides of the longitudinal fissure, 4 cm. long and not quite 2 cm. wide. These were made up of soft, friable tubercles, following the course of the vessels. Smaller tubercular masses were also present on the base of the brain and on the optic chiasm.

The treatment of the meningitis consisted in ice-bags to the shaved head, poultices over the whole body up to the neck, leeches to the septum of the nose, and potassium iodide, internally, in doses of at first 8 grammes daily, increased to 40 grammes—altogether 950 grammes. The drug was borne without serious effects. All the secretions contained iodine, and to this the author ascribes the recovery.—*Deutsche med. Wochenschrift*, and *Amer. Jour. Med. Sci.*, July, 1896.

A Case of Tubercular Meningitis which ended in Recovery.—Freyhan also has recorded a case in which the patient recovered, although he certainly suffered from tubercular meningitis. The spinal puncture was performed in this case, the needle being introduced between the second and third lumbar vertebræ, and 60 cc. (about 1¾ oz.) of slightly turbid serous fluid readily flowed out. In the sediment a few pus corpuscles were found, together with typical bacilli. After the puncture the patient improved so rapidly and steadily that in three weeks he was able to leave his bed.

This seems to be the first case in which a meningitis ending in recovery has been certainly proved to be tubercular.—*Deutsche med. Wochenschrift*, 1894, No. 36.

III. ON THE CLINICAL DIAGNOSIS OF DIPHTHERIA.

Although the information to be derived from bacteriology in cases of suspected diphtheria is of great value, nevertheless it is not always easy to obtain this information. and in every case we must wait some time before the information is forthcoming. It is, therefore, advisable to learn all that can be acquired from clinical observation, especially when combined with bacteriological investigation.

Dr. Deucher records the result of the examination for the Löffler bacillus in a large number of cases of suspected croup, or diphtheria, admitted to Prof. Sahli's wards.

	No. of cases examined	Löffler bacilli found in
A.—Fauces.		
I. Diphtheria with typical membrane ...	75	75
II. Angina without typical membrane :—		
1. Punctiform diphtheria of the tonsils—		
(α) Without laryngeal obstruction	4	4
(β) With ,, ,,	11	11
2. Follicular tonsillitis	6	0
3. So-called streptococcus diphtheria ...	1	0
4. Angina catarrhalis—		
(α) Without laryngeal obstruction	5	3
(β) With ,, ,,	26	16
5. Angina necrotica, &c.	8	1
III. Normal tonsils	15	8
B.—Larynx and Trachea.		
I. Croup, with distinct membrane ...	77	76
II. Croup, without ,, ...	27	7

In addition to the typical forms of diphtheria, follicular tonsillitis, &c., there are other cases in which the diagnosis is less certain, and which are variously described by different physicians. The most important forms are the punctiform diphtheria, scarlatinal diphtheria, and streptococcus diphtheria.

Punctiform diphtheria resembles follicular tonsillitis in many points. There are, however, some differences.

In *follicular tonsillitis* there is a deposit of pus in the crypts of the tonsils. The patches which are thereby produced are seated a little below the surface. They are always round, or, when they have become larger by confluence, irregular, with rounded margins. The colour is yellow. Frequently the spots may be squeezed out as plugs. In many cases these purulent plugs are not seen superficially projecting from the mouths of the crypts, but appear rather as more deeply seated points shining through the superficial tissues. These deeper spots are the result of the border of the crypt becoming swollen and closing over the plug, or they are due to the crypt being twisted, the blind end approaching the surface.

In *punctiform diphtheria*, on the other hand, the small patches are seated on the most prominent parts of the tonsils; they are frequently round, but here and there they present a more ragged, sharp-bordered appearance. The colour of the patches is whitish. The points can never be squeezed out: here and there they can be torn away as small shreds; often they are too firmly adherent to be torn away. Although the author has never seen any extension to the uvula and soft palate in these cases, yet he thinks this may possibly occur, while no such extension will occur in follicular tonsillitis. If laryngeal obstruction also occur, the clinical diagnosis of diphtheria is certain. Bacteriology, however, shows that the cases may be truly diphtheritic even when there is no laryngeal lesion.

From true diphtheria is also to be distinguished the streptococcus pseudo-diphtheria. When the membrane is two or three days old, in the bacillary form the membrane is pure white or greyish-white; in the streptococcus form it is of a yellow tint. The true diphtheritic membrane remains tough for a long time; the streptococcus membrane, even from the first, is characterised by a tendency to crumble away and break up.—*Correspondenzblatt f. schweitzer Aertzte*, Aug. 15, 1895, and *Med. Chron.*, Oct., 1895.

IV. THE CAUSE OF SUDDEN DEATH AFTER ANTITOXIN INJECTIONS.

Although such cases are fortunately rare, still sufficient have occurred to make the elucidation of their cause most desirable.

All arguments point to the fact that death is caused by something introduced under the skin and not by shock. The laboured respiration, the cyanosis, and the subsequent cessation of respiration reported in these cases, give a clear picture of death from suffocation. In endeavouring to ascertain the cause of these symptoms Drs. Seibert and Schwezer undertook a number of experiments to determine—

1. Whether large quantities of *fresh* anti-diphtheritic serum brought directly into the blood of an animal could produce unfavourable symptoms or death.

2. Whether large quantities of *old* antitoxin could cause trouble when used in this manner.

3. Whether sudden death after an antitoxin injection is due to the *carbolic acid* which is used in preserving the serum.

4. Whether sudden death was due to the introduction of *air* into the circulation during the injection.

The experiments were numerous, and are detailed at length in the original.

The authors' conclusions are—

1. The antitoxin does not seem capable of producing threatening symptoms and sudden death, even when brought quickly into the blood current in large doses.

2. The carbolic acid used as a preservative is in such a weak solution as to be unable to do harm. Besides, fatal doses of carbolic acid introduced into the the circulation produce characteristic convulsions—symptoms entirely unlike those noticed in death after antitoxin injections.

3. Even very small quantities of air introduced into the blood-vessels caused severe disturbances and ultimate cessation of breathing in every animal experimented upon. These symptoms resembled closely those observed in cases of sudden death after the use of antitoxin. A little air may be injected along with the serum, and being pressed under the skin with the fluid may come in contact with a punctured

cutaneous vein, and so may enter the blood-vessel and the right heart.

The authors, therefore, express the firm opinion that the sudden deaths reported after antitoxin injections were due to injected air and not to the serum.—*N. Y. Med. Jour.*, 1896, No. 22, and *Archives of Pediatrics*, July, 1896.

V. APYRETIC TYPHOID FEVER.

This designation ought to be reserved for cases in which the temperature remains normal or sub-normal throughout the course of the attack, in the absence of collapse, although there may be transitory elevation as a result of complication. All other symptoms may be present as in a typical case of typhoid fever. During most of the attack the temperature ranges between 97·2° in the morning and 99·5° in the evening. The pulse is variable—sometimes it is slow; more often it is normal; sometimes it is increased in frequency. It is difficult to recognise the different stages of the disease, as these are usually indicated by the course of the temperature curve. Convalescence is sometimes protracted, the patient remaining feeble and emaciated for a long time. The same complications may arise as occur in the ordinary form of the disease. Exceptionally cases of typhoid fever occur in which the temperature is subnormal throughout. In these the temperature curve is usually of the inverted type, the records being highest in the morning and lowest in the evening. An enlarged spleen and rose spots are important from a diagnostic point of view.

In explanation of these apyretic forms of typhoid fever it is assumed that the kidneys do not perfectly eliminate the poisons produced by the disease; experimental research has shown that at times the urine of typhoid fever patients contains toxic bodies capable of causing depression of temperature. It is supposed that, in some cases, there is a preponderance in the products of the activity of the typhoid bacillus of bodies capable of causing such depression.

Therapeutically the absence of fever affords no special indication. Antipyretics have been found to cause elevation of temperature.—*L'Abeille Médicale,* and *Amer. Jour. Med. Sci.*, July, 1895.

VI. TRANSFUSION OF BLOOD IN SEVERE CHRONIC ANÆMIA.

Ewald was called to see a man, aged thirty-two years, apparently in collapse. The history obtained then, and examinations made afterward, showed the case to be one of idiopathic anæmia, having many of the characteristics of the so-called pernicious form. The patient could not swallow, injections of camphor had no effect on him, and, as a last resort, apparently a hopeless one, transfusion was practised. The blood was taken from the patient's wife, defibrinated, and injected into the median vein to the amount of about 85 ccm. Anæsthesia was not necessary. The patient's pulse and breathing improved slightly after the transfusion, but injections of ether and camphor were necessary throughout the following night. On the second day after that strength gradually returned and the patient became convalescent. On the third day the blood showed 1,250,000 red corpuscles and 29 per cent. of hæmoglobin. There were few polynuclear leucocytes, no nucleated red corpuscles, very few eosinophile-cells. There were hæmorrhages in the retina. The blood after two weeks showed 2,300,000 red corpuscles and 33 per cent. of hæmoglobin. Five months later the hæmoglobin was the same, the red blood-corpuscles 3,500,000 to the ccm.

After discussing the clinical and pathological features of the case—which he does at some length—Ewald inclines to the opinion of Hunter, that pernicious anæmias are due to auto-intoxication caused by changes in the gastro-intestinal tract. In view of our present knowledge of auto-intoxication and antitoxins Ewald raises the question whether, in such cases as the one just cited, the injected blood has not some antitoxic action, so that a poison circulating in the body becomes neutralised or destroyed by it, and so gives the body time to gain new strength.

In addition to the transfusion and after it, the patient was treated by arsenic in various forms, quinine, iron, hydrochloric acid, and a combination of resorcin, bismuth-salicylate, and benzo-naphthol. Meat was but sparingly used in the diet.—*Berliner klin. Woch.*, No. 45, 1895, and *Amer. Jour. Med. Sci.*, Feb., 1896.

VII. ADDISON'S DISEASE TREATED WITH EXTRACT OF SUPRARENAL CAPSULES.

Dr. W. Osler (Baltimore) records notes of six cases of Addison's disease, one of which is especially interesting, as in it he found treatment with suprarenal extract of great value.

The patient, a man aged 46, was admitted to hospital on May 3, 1895, complaining of cough, shortness of breath, great weakness, and bronzing. These symptoms had lasted for two years, and were increasing in intensity. He had lost much flesh. He was on admission intensely bronzed; his weight was 7st. 1lb.; moist râles were heard in the left apex; he expectorated about eight ounces of sputum daily, in which tubercle-bacilli were subsequently found. The pulse rate was from 120 to 130; temperature from normal to 101° F.; respirations from 25 to 35. The general prostration and the rapidity of the heart action were out of all proportion to the amount of disease in the lung.

On May 16 the treatment with suprarenal extract was begun. Thirty-six pigs' suprarenals were obtained at the time of slaughtering, cut up finely, thoroughly powdered with pestal and mortar, and to this mass about six ounces of pure glycerine were added, and the whole allowed to macerate for thirty-six hours in a refrigerator. The mixture was then filtered several times through fine-meshed gauze. The filtrate consisted of a reddish-brown syrupy fluid of a rather disagreeable odour. After filtering there were thirty-eight drachms of the extract, so that one drachm corresponded to a capsule. The patient began with half a drachm of the extract three times a day.

The patient's blood-count when he began the treatment was—red corpuscles, 4,564,000; leucocytes, 6,600; hæmoglobin, eighty-five per cent.

The note on May 24, eight days after beginning the use of the extract, was:—The patient looks brighter and says he feels better. The pulse, which had ranged from 120 to 140, is now 100. He has gained three pounds in weight.

On June 6 the amount of the extract was increased so that he took the equivalent of three glands daily.

A note on June 19 is as follows:—Temperature has been quite normal for more than a month. The pulse, which had ranged between 120 to 140 to the date of beginning the extract, has gradually fallen until during the last week the range was between 84 and 104. The amount of sputa has diminished to about one ounce in the day. The patient says he feels much better; his appetite is good, and he looks a great deal brighter. The condition of the lung has improved.

The treatment was continued throughout July and August, and in spite of the hot weather he improved progressively. The gain in weight was remarkable. In July his weight increased from one hundred and ten and a half to one hundred and fifteen pounds. In August, during the very hot weather, he lost again slightly in weight.

He left the hospital on September 10. The change in his condition had been very remarkable. When admitted he could scarcely walk to the bed, and was profoundly asthenic and emaciated. The general appearance had improved wonderfully; he was bright and active, and said he felt vigorous. His weight on discharge was one hundred and eighteen pounds, a gain of nineteen pounds. The pigmentation was unaltered.

Since his discharge he has been at work, and has reported at the hospital occasionally. He felt so well that throughout the latter part of November and December he remained without any of the suprarenal extract, and he lost three pounds in weight in that time. His condition to-day (January 15, 1896) is as follows:—

The colour is good. To me his face looks a little less pigmented, but Dr. Thayer, who had the patient in charge during the summer, while he was in the ward, does not think that there is any material change in the face, but thinks the discoloration is less intense on the trunk. It is still of a very advanced grade, such as is seen only in the most typical cases of the disease. The small patches of pigmentation on the palate have disappeared. The local condition in the lung has cleared, and there are now only a few râles to be heard occasionally on coughing. The friction is still audible just outside the right nipple. The change in the patient's general vigour is remarkable. He walks briskly, is active, energetic, in very good spirits, and says that he is as well as he ever was in his life.

(*To be continued.*)

NAPOLEON'S EPILEPSY.

In the issue of the *Journal of the American Medical Association* for April 16th, there is an interesting paper, a continuation of a previous article, upon Napoleon's diseases, discussing the evidence for and against the prevalent belief that the great man suffered from epileptic attacks. The author is Dr. Edmund Andrews, of Chicago. He concludes "that the witnesses denying the epilepsy are more credible than those asserting it, but the Emperor had an ungovernable temper, and a very excitable nervous system, which in some cases carried him into semi-hysterical manifestations, but not into true classical epilepsy." He does not believe Talleyrand or the often cited Parisian actress; and he relies upon the negative evidence of the six medical men who published their observations on their illustrious patient's diseases, none of whom says a word about epilepsy. Constant, the Emperor's valet, positively asserts that his master was never subject to epileptic attacks. Bourrienne, who would naturally be a hostile witness, states that he never observed any symptom of epilepsy.

CANCER IN THE UNITED STATES.

The *American Practitioner and News* states that there are fourteen thousand deaths from cancer in the United States annually, two-thirds of these (9,333) are in women; in 25 per cent. of all cases in the female the lesion is in the breast, in about 25 per cent. in the uterus, and in 50 per cent. in other parts of the body combined.

ACROMEGALY.

M. Marinesco has reported three cases to the *Académie de Médecine*, in which he treated acromegaly with tablets of pituitary body, which is, he says, "*constamment*" hypertrophied and altered in this disease. There was no diminution of the parts affected, but the headache and neuralgic pains in the limbs were diminished or disappeared, movements became slightly freer, and the urine was increased.

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

INTRODUCTORY ADDRESSES.

Surgical Cleanliness and Surgical Handicraft. **An Address introductory to the Session, delivered at the Meath Hospital, October 5th, 1896. By R. GLASGOW PATTESON, M.B., Univ. Dubl.; F.R.C.S.I.; Surgeon to the Hospital.**

IT is my pleasing duty to-day, in accordance with time-honoured custom, to address to you, on behalf of my colleagues and myself, some introductory words of welcome at this the formal inauguration of our winter's work; of welcome and of earnest advice to those of you who stand upon the threshold of your studies to-day; of welcome and of "God-speed" to those of you whose studies are almost completed, and who will soon emerge from these walls faring forth with hopes breast-high into the battle of life.

It is our hope that your hopes will not be falsified; and that in pursuing your studies here, besides the knowledge you have gained, you have acquired those habits of painful and accurate observation without which success is impossible. It has been the endeavour of your teachers to inspire you also with that love of truth and of earnest enquiry for truth's sake, without which your observation will prove but a wrecker's beacon to lure you to destruction. Those of you who are leaving us have now become joint heritors of an honourable past; and it remains with you to well and faithfully uphold, without blot or tarnish, the high and glorious traditions which have been handed down to you from the great teachers of the past. No grander motto could you carry with you than that of the Hospital within whose walls you are gathered to-day: "Quæ regio in terris nostri non plena laboris?"—and yours is the proud privilege to carry its fame and honour into the most distant lands. Looking round the names that are emblazoned in this Theatre, one might, without straining, translate the motto—

"Where in the whole wide world is a Meath man not to be found?"

I know that, in common with all students, including myself, you vote introductory addresses "a bore." I shall not therefore trouble you with a scholastic disquisition, or with schemes of Utopian education which have but the twelve hours' existence of the daily press; but shall say a few words to you on two subjects of paramount importance in your future life and work—two subjects intimately bound up with success in that branch of medicine which it is my duty and privilege to teach—Surgical Cleanliness and Surgical Handicraft.

It is an old saying, almost Scriptural in its authority, and indeed often quoted as such, that "Cleanliness is next to Godliness." Surgically it is much more important. David seems to have had a much clearer foresight into the necessities of modern practice when he recounted the rewards in store for the man "that hath clean hands and a pure heart." There is no need to quote the remainder of the verse; none of you would ever be guilty of "lifting up his soul unto vanity." Yet remember there is a vast difference between vanity and vain-glory; and the true surgeon must ever feel some legitimate pride in the results of conscientious and successful work. But that is a very different thing from talking of it all round the town, which is the essence of the vain-glory thus condemned. Further, above all things, bear this constantly in mind: "Be not envious one of another;" rather glory in every success, inasmuch as it may be a stepping-stone that will help each one of us upward in the path of progress. Emulation is the ladder by which we climb; but petty jealousies are detrimental to our work; and we cannot hope for success if our object in attaining it rests on so low a moral foundation. We have not all equal gifts, and our constant aim must be—not our own vain-glory, but the attainment of the best possible results for those who entrust their lives and welfare to our keeping.

It is in this aim that *cleanliness* plays so important a part. We know that nowadays our practice is based on sound principles. If care and cleanliness be exercised, no region of the body can be violated by the surgeon's knife; no limit can be placed to the possibilities of eradicating or ameliorating disease. The prevention of death is the aim of our science; and it is the glory of modern surgery that it has advanced in this direction beyond the dreams of even the most sanguine prophets of a past generation. We know that no wound made deliberately in healthy tissues ought to suppurate. If it does so, the defect lies in the surgeon's hands—literally and not figuratively; and at his door must be laid the graver charge of surgical disaster. "Godliness is *next* to cleanliness"—in other words, the most important factor in Surgical success, when dealing with the life or limb of your patients, is—Cleanliness. Syme long ago expressed a grave truth in forcible language when he observed that "a probe in the hands of a careless surgeon was as dangerous as a loaded pistol in the paw of a monkey;" and we might say conversely that the paw of a monkey would be a source of less danger in a wound than the dirty hands and instruments we unfortunately still sometimes see employed. The surgeon who neglects knowingly the precautions imposed by scientific investigation as regards cleanliness is as blameworthy as the fool who smokes a cigar in a powder-magazine. No sophistry or special pleading can free him from blame if the appalling catastrophe of death is the result of his ignorant carelessness or culpable neglect of essential principles. Therefore, above all things, *let your hands be clean.* It will be part of our effort here to so instil into your minds the principles of wound treatment that fatal results will be, humanly speaking, impossible; and to endeavour that the gospel of surgical cleanliness will become before you leave these walls an ingrained part of your being—an instinct that time can neither impair nor destroy. "Cleanliness *is* Godliness;" and, to put it on no higher basis, for your own sakes remember that, according to Scripture—"Godliness is great gain."

And now a word as to what is meant by surgical cleanliness. Lister established a grand truth when he proved the important part played by germs in the prevention of wound healing and the development of suppuration. Hence the system of antiseptic surgery, whose aim was by medicated sprays and fluids to kill or at least to counteract the influence of those germs which were inimical to primary union—that is, to union without suppuration. That end was attempted by the use of various germicides; and in proportion as these substances proved efficacious, so the results obtained improved until it was thought that finality in wound treatment had been attained. But "finality" is a purely human term. In science, as in life, there is no finality. Daily "down the ringing grooves of change" there come new ideas within the scope of our active life; and progress means the power to assimilate and utilise new ideas.

"For who beholds
New sudden things, nor casts his mental slough?"

Hence it is that to-day we find Listerism, as it was called, almost a thing of the past; the rags that clothed the idea are gone, but the eternal principle remains. Newer and more scientific methods have superseded those which had their day of brilliancy and ceased to be; and to-day we practise not antiseptic but *aseptic* surgery. Yet we must not forget to give to Lister the crowning glory that is his due. He was the pioneer of modern surgical methods; but above all, and first of all, he was the Apostle of Surgical Cleanliness.

At the very outset it may be asked—In what does aseptic differ from antiseptic surgery? Are they not different terms for the same thing? The distinction ought to be known to every well-trained student; but there are, unfortunately, many surgeons even to whose minds the terms convey little, if any, difference; only their mortality sheet "points the moral and adorns the tale." Put in a nutshell, the difference between "aseptic" and "antiseptic" surgery is this:—Aseptic surgery obviates by its methods the possibility of wound infection; antiseptic surgery does its best to neutralise by chemical or other means the effects of the poison either inherent in the wound itself or introduced into the tissues by the careless and septic operator. The great principle on which aseptic surgery is based is *the annihilation of all germs by sterilisation of instruments and dressings;* and the most potent and the most universally applicable of all the means available for germ destruction is heat in some form or other. We cannot boil our hands or our patient's skin, however; and hence, for the disinfection of these, other, if less assured, methods are employed. For the disinfection of the field of operation the following method, which is a modification of that in use in von Bergmann's clinic in Berlin, is about the best available. The skin is thoroughly cleansed, and, if necessary, shaved the day before the operation, a continuous carbolic dressing being then applied. This remains in place until the patient is under the anæsthetic, when it is removed and the part energetically scrubbed with soap and water, particular attention being given to the creases and folds of the skin. It is then dried with sterilised muslin, washed with ether, and finally scrubbed with 1 in 2,000 solution of corrosive sublimate. As regards the sterilisation of the instruments, it has been found, as the result of experiments, that the most efficacious and most generally practicable method is by boiling them for five or ten minutes. A one per cent. solution of sodium carbonate is used, which not only prevents rusting, but prevents blunting of knives; and in this way, so short is the time necessary, the instruments can be freshly boiled between each operation, and thus the danger of infection being conveyed from one case to another is reduced to a minimum. After boiling the instruments are placed in trays containing a solution of carbolic acid and sodium carbonate—of each one per cent.—and kept in this during the period of the operation. Next and chief in importance comes the dressing which is to be applied to the wound; and the conditions laid down for its asepticity are threefold:—"1. It must be free from pathogenic germs; 2. It must thoroughly absorb the secretions of the wound; and 3. It must act antiseptically, so as to prevent decomposition of the absorbed secretions." The ideal dressing which meets these requirements is gauze bound together in several layers; but from motives of economy butter-muslin may be substituted without in any way interfering with efficacy. Sterilisation is carried out by means of nascent steam in copper chambers built on Koch's principle, and capable of rendering perfectly innocuous all contained germs in from half to three-quarters of an hour. Several sets of dressings are contained in the receptacles in the steriliser, and are taken from them only as required. In the same way sponges are completely abolished, and pads of muslin sterilised in the same chamber, and then wrung out of some mild antiseptic, such as lysol, are substituted, and destroyed immediately after each operation. The wound being closed, the dry dressing is applied—that is, several layers of the sterilised muslin. No antiseptics are used, for repeated experiments have shown that a dressing which is absolutely dry does more to check the growth of organisms than all the germicides that have been recommended for the purpose. "A proper use of evaporation," says Schimmelbusch, "has the inestimable advantage over dressings impregnated with antiseptics, that while it checks the growth of bacteria it cannot hurt the patient."

There is one other immense advantage which this mode of treatment affords—it is within the reach of everyone. It is more than probable that many of you will be called upon from time to time to operate in cases of emergency without the resources of a hospital theatre at your back, and without the time to procure elaborate antiseptic dressings. "It is then," to quote Schimmelbusch's eloquent words, "that aseptic treatment, in the hands of those who understand it, shows its greatness and celebrates its crowning triumph in the simple and unassuming methods which it affects. 'Fire, water, and some means of boiling it, being given, the true surgeon, and one who has imbibed the true spirit of asepsis, will be at once at home and will improvise everything else. Boiling water provides him with sterilised instruments, sterilised thread for ligatures or suturing, and sterilised though wet dressings made from boiled linen compresses squeezed out. In this way it is conceivable that a surgeon miles away from any civilisation should carry out an amputation, the ligature of some great vessel, or an urgent herniotomy, with a result, it may be, not inferior to that attained on the marble floor of a modern operating theatre." That alone is a strong, an overwhelming argument in favour of the system. The results attained also speak in no doubtful manner. Both methods have been tried with the fullest elaboration of detail in the hands of the most brilliant operators, so that the personal equation may be eliminated; and it is proved to demonstration that aseptic methods are not only immeasurably superior in simplicity of detail and of preparation, but that they also give the highest security as to the success of the operation and the life of the patient. And these, after all, are the most urgent and pressing of the needs of surgery, whose aim is the safe removal of disease and the prolongation of human life.

This leads me to say a few brief words on the other and equally important subject—Surgical Handicraft. I am afraid we are somewhat prone from our higher intellectual standpoint to look down upon the mere handicraftsman as a sort of flesh and blood machine trained to perform almost automatically his allotted task. We are apt to forget by what devious ways and hours of unremitting toil that exquisite and almost mechanical precision has been attained. It is the natural outcome of continued muscular effort guided and regulated by the thinking and ever-active mind; and it is precisely that quality of unerring and mechanical exactness which we mean when we speak of surgical handicraft. It is this educated instinct guarded and directed by sound knowledge and unfailing judgment—by the mind that knows no doubt, and the hand that knows no tremor—which goes to the making of the perfect and accomplished surgeon. It would be a lamentable thing if now, when surgery has been placed on a scientific footing, manual technique should be found wanting. As Volkmann has well expressed it—"A short time ago the surgeon, when he had completed a bloody operation according to rule, was like a husbandman who, having sown his field, waits with resignation for what the harvest may bring forth, fully conscious of his own impotence against the elemental powers which may pour down on him rain, hurricane, and hailstorm.

Now he is a craftsman from whom one expects good workmanship."

How is this excellence in workmanship to be attained? It is a matter of wonder that the importance of dissection in this connection has scarcely been recognised. There is something radically wrong in the system of teaching anatomy which makes the large majority of students loathe and shirk the tedium of dissection. Anatomy is not taught as the handmaid of surgery, but as a separate science bristling with technicalities and overloaded with trivial and exasperating details. Hence it is unwillingly learnt and readily forgotten; and the vast majority of the broader facts which are all-important in surgery are engulfed in the wreckage which follows the emancipation of the overburdened memory. For apart from the essential knowledge of muscle, nerve, and artery, gained by dissection, it has an equally high claim to recognition as the one branch of technical training in handicraft which the student obtains. The laborious and apparently useless search for nerve filaments and terminal arteries has, rightly judged, the highest surgical value; it is the education of eye and hand to perfect co-operation in fineness and accuracy of touch. Viewed in this light of a manipulative training for the higher walks of surgery, it becomes, apart from the knowledge which it brings, an educational factor of the highest value. One of the gravest defects of our surgical training is that it involves no special education in one of the most important branches of our art—operative technique. A short course of operative surgery extending over a couple of months, in which the student performs some eight or ten operations, is all that is required before he is launched forth to deal licensed destruction with the dangerous tools he has scarcely learned to handle and certainly not to master. It is in this connection that a course of technical training in wood or metal, or some of the plastic arts, would be of inestimable service. I think it was Mr. Lawson Tait who suggested, when the additional year of study now required was being debated, that part at least of the extra time should be spent in the turner's workshop, or at the carpenter's bench. And there can be no question that the precision of eye and hand thus acquired would prove of incomparable value both to the future surgeon and to his patients—far more valuable than the knowledge of how to spread a plaster or to roll a pill! On this point I cannot do better than quote for you Mr. Treves' striking words:—" Operative surgery," he says, " is a *handicraft*, and the accomplished operator must lay claim to be considered a skilled handicraftsman. Like other and simpler handicrafts, much depends upon natural aptitude and physical qualification; but still more depends upon culture and patient practice. A well-matured and well-balanced judgment guides the hand of him who shows most skill; he may do well who is bold, but he will do better who has precise knowledge. The surest sense of confidence rests with the operator who knows accurately what he intends to do, and how to do it. The least success follows the hand of the man who retains throughout an operation a speculative spirit, who depends largely upon his imagination for conditions, and upon the fortune of events for results. A shakiness of the hand may be some bar to the success of an operation, but he of the shaky mind is hopeless. In the handling of a sharp instrument in connection with the human body a confusion of the intellect is worse than chorea."

It is with this object in view—the cultivation of precision of hand and eye—that I would urge you all to devote part of your leisure hours to the pursuit of some manual training, such as etching, wood-carving, or metal work. Quite apart from the mental relaxation such employment affords, you will find it of the greatest assistance in your future work; for no branch of medicine affords such scope for the highest development of the mechanical intellect as does surgery. Many games, especially billiards, are an excellent training for quickness and accuracy of eye and hand; but perhaps the fascination of that game and the haunts in which it is generally played, might draw you from more serious pursuits, and not prove altogether conducive to that steadiness of nerve and hand which is the end to be desired! One thing is certain, the time devoted to such technical pursuits will amply repay you in the mental refreshment they afford, and the facility of the finer muscular efforts they call into play. Nor must more athletic recreation be neglected. The sound mind in the sound body is an essential part of your equipment, if you would stand without detriment the prolonged mental and physical strain that operative surgery demands. But given these necessary qualifications, no branch of our art has equal fascination or offers greater rewards. The saving of life and limb; the removal of deadly growths; the repair of Nature's mistakes; and the exploration of the innermost recesses of the human frame—offer opportunities for skill and legitimate triumph that cannot be equalled in any other pursuit. Remember that in your hands will often lie the issues of life and death. Let no half-heartedness in your art, and no half-knowledge, more fatal than ignorance, ever lead you to forget your glorious privilege or to dull your sense of grave responsibility. To each according to his work shall be the measure of recompense; not in rewards alone, but in the grateful remembrance of suffering relieved and lives prolonged by the merciful intervention of your art.

And now just one word in conclusion. In language quite inadequate to the importance of the subject, and in a necessarily brief space, I have endeavoured to instil into your minds two great surgical principles. Surrounded as you are here by the memories and mighty influences of the past, I would appeal to these masters who are dead and gone, and let their lives and records emphasise my weak words. Their still living works can clothe with flesh and blood these dead bones and breathe into them the breath of life, that they may live. Let their name and fame be a constant inspiration to you in your work, a constant stimulus to earnest study and honest endeavour, knowing that the "infinite capacity for taking pains" was the foundation on which their genius rested; that to you the same opportunities are afforded; and to you in the future may come the same acclamation and reward. Strive with all your might to pick up daily some item of knowledge within these wards where we are all students together trying to unravel some of life's mystery, or to piece together our separate experiences into one comprehensive whole. Without the practical experience you will gain here your theoretical knowledge will prove but a stumbling block; the larger your experience the wider and more comprehensive your vision, bearing always in mind that

"All experience is an arch where thro'
Gleams that untravelled world, whose margin fades
For ever and for ever when we move."

Isolation as a means of preventing the Spread of Infective Fevers.[a]

By M. M'Hugh, M.A., M.B., Univ. Dubl.; Visiting Physician, St. Vincent's Hospital.

In accordance with the mandate of my colleagues, the duty now devolves upon me of delivering the Introductory Lecture at the opening of this the Sixty-third Medical Session of our Hospital. In the preparation of an Address suitable to occasions such as this the subject which, in the first instance, recommends itself to the lecturer is the all-important and apparently inexhaustible theme of medical education. On both the former occasions, however, on which I have had the honour of addressing you from this place my remarks were exclusively devoted to aspects of this question which, at the time, seemed most deserving of attention, and I may now be permitted to deal with a subject which is not only of great interest to medical men, but which also most vitally concerns every member of the community. I allude to the endeavours which have recently been made, and which, it is to be hoped, will in the future be more actively made, to check the spread of infectious diseases by means of their complete isolation and treatment in hospitals specially provided for them.

This is a question in regard to which, it must be confessed, we are sadly behindhand in Dublin, as compared with the principal centres of population on the other side of the channel. It is one which is, however, gradually forcing itself more persistently upon the attention of our citizens, and with regard to which important proposals emanated from the Public Health Committee of the Corporation at a comparatively recent date. These proposals, it is to be regretted, did not meet with that amount of support to which they would seem to have been entitled. They were, on the contrary, made the subject of considerable animadversion by an influential section of the medical profession; and from this, as well as other causes, it may be said that the plan recommended by the Corporation Committee, if not actually still-born, has, at all events, lapsed into a condition of suspended animation. I feel, therefore, that I cannot more profitably avail myself of the opportunity now afforded me than by an inquiry into our position with regard to the existence of infectious and so-called preventable diseases amongst us, and by endeavouring to again attract public attention to a matter of such urgent importance.

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[a] Introductory Address delivered at St. Vincent's Hospital, Dublin, on Tuesday, October 6, 1896.

That the seclusion or isolation of affected persons is a means of limiting the spread of infective fevers, has long been a matter of common knowledge. It followed as a necessary corollary, from the recognition of the fact, that these diseases were contagious; and the principle has not been without its practical applications in measures such as the enforcement of quarantine in dealing with plague, cholera, and other imported diseases. But as a means of stamping out diseases such as scarlatina and diphtheria, which have already obtained a permanent footing amongst us, it has been almost entirely unproductive of good. Men seemed to have come to regard these maladies rather as necessary evils, and the term preventable diseases, so often applied to them, has remained little more than a theoretical expression. It is true that other measures undertaken by the local authorities—such as the provision of a pure water supply, efficient sewerage, and the removal of filth—have a very important effect in diminishing the prevalency of zymotic diseases; but, considering the large sums freely expended upon these measures, it is all the more remarkable that no more direct and organised attack has been made upon the existence of the diseases themselves by putting a stop to the means by which they are kept alive; that is to say, the transmission of contagion from affected persons to those around them.

The power which the infective fevers, as a rule, possess of disseminating themselves through the community, by this transmission of a poison from person to person, is what we call contagiousness. In some cases this process takes place more directly through the air, and in others more indirectly through the contamination of sewers, of drinking water, or even of milk and other articles of diet. But by whatever means it be effected, it is well known that a single case may act as the starting-point of a whole epidemic. I may take as illustrations two well-known diseases, at present very widely diffused through the city. The contagious virus of typhoid fever is contained mainly in the evacuations of the patient; and so virulent are these, that the discharges from a single case of this disease may serve to infect a large area, both as regards sewerage and water supplies, thus leading to many fresh outbreaks. The infective poison of scarlatina, on the other hand, is found to reside chiefly in the scales which peel off the skin during the period of convalescence.

Every patient, therefore, in the stage of recovery from scarlatina is apt to spread the disease broadcast, throwing off the poison in its most virulent form during his convalescence—that is, at a time when he must be most active in distributing it. With a knowledge of these facts, and with a realisation of their full import, who can estimate the enormous gain to the public, both in this and future generations, if diseases like typhoid and scarlatina could be placed and treated under such conditions that the contamination of surrounding media would be impossible. It is evident that if these conditions could be arrived at, the further dissemination of the poison would cease, and the diseases would be gradually stamped out.

In order to compass this end, it is necessary that all cases of infectious diseases, occurring in a given district, should be removed to special institutions, in which they would not only be treated under conditions most favourable to recovery, but in which also care should be taken that all discharges, or emanations from them should either be destroyed or rendered innocuous by disinfection. Institutions of this kind are commonly known as isolation hospitals. In constructing them it is essential to provide one or more separate pavilions or blocks for the reception of each class of disease, and for no other. They require an efficient ambulance service for the removal of patients from their homes, and should be always in readiness to cope with any sudden emergency. The disinfection of infected dwellings, &c., is, of course, necessary as a supplementary procedure, and, above all, is required the loyal co-operation of the medical profession, and of the public in the notification of each case to the proper sanitary authorities.

Amongst the infectious diseases, which we may be said to have constantly with us, scarlatina stands out prominently, not only on account of its severity, but also because it offers, perhaps, the greatest probability of ultimate extirpation by the method of isolation. As it has also made its presence somewhat obtrusively felt during the past few months, a more detailed reference to it may not be out of place. I have already alluded to the manner in which the poison of this disease is distributed by means of the abundant scales shed by convalescent patients. These scales are apt to be disseminated through the air in the form of fine dust, and to cling to articles of clothing, books, furniture, &c.; and so tenacious is the poison that for several years afterwards the disease may be contracted from such infected articles or dwellings. It cannot, therefore, be a matter of surprise that this disease, besides occasionally assuming an epidemic form, should have established itself on a permanent basis amongst us. It has been estimated, and on the very moderate basis of allowing only fourteen days of contagiousness for each case, that London has hitherto maintained a permanent stock of two thousand centres of infection; and it may be affirmed that constant or continuous infection, with more or less numerous foci, is kept alive in every town of over fifty thousand inhabitants. The remedy here called for is sufficiently obvious. The reduction of these centres of infection to a minimum, if not their complete annihilation, should be attempted, and by the means already indicated—namely, the prompt removal to hospital of each case discovered, combined with immediate disinfection of the dwelling, clothes, &c., of the affected patients. When I mention that in its early stages this formidable disease is only slightly contagious, it will appear that there is every possibility that these procedures, if rigidly and invariably applied, would ultimately succeed in eradicating all sources of infection.

But devoutly as such isolation is to be wished in the case of scarlet fever, it is no less imperatively called for as regards such dread diseases as diphtheria, small-pox, typhus, and typhoid. It may be argued that, owing to the large mass of patients to be dealt with. the practical execution of this plan is beset with great difficulties. Granting that this is so, there is no reason why an attempt should not be made to apply it to as large a proportion of the cases, especially of the more serious forms, as possible. We have abundant evidence that determined endeavours in this direction are at present being made in England and Scotland, where in many of the principal cities they have succeeded in isolating from 70 to 90 per cent.—and in some actually all the cases of scarlatina arising within their boundaries.

In coming to the next branch of my subject—an examination of our local arrangements for dealing with infectious fevers—I do so with some hesitation. For, gentlemen, I must describe our hospital system when viewed from the modern standpoint as for the most part in need of radical reform, and, as a whole, utterly inadequate to meet the requirements of the case—a description which, I fear, will not be very acceptable to many of my most esteemed friends in the profession.

Under what conditions, then, is the treatment of fevers carried on amongst us? We find that in addition to the Cork-street and

Hardwicke hospitals, which take rank as special fever hospitals, there are fever departments in no less than six of the general hospitals, and, I understand, in one private hospital. So that in a city of no very considerable dimensions the treatment of infectious diseases is carried on at eight or nine different centres, many of which are situated in the midst of thickly-populated districts.

This multiplicity of infected centres alone carries with it, for obvious reasons, a strong condemnation of the whole system. But let us examine the latter more closely. It is requisite, according to modern ideas, that in every fever hospital separate pavilions should be provided for the isolation of each type of fever. How can this be effected when the fever department in our general hospitals consists simply of the wing of a building which admits all classes of medical and surgical diseases, or, at most, of a small detached block in close connection with it? In these institutions, also, the visiting medical staff is the same for both the general medical wards and the fever wards. The resident medical officers and pupils, and the students attending, pass freely from one section to the other, the nursing administration is common to both, and, in fact, the arrangements fall so short of what modern standards prescribe, one may say without exaggeration that the principle of isolation is practically ignored.

And what is the position of patients suffering from non-infectious diseases, or requiring surgical operations in these hospitals? What is the standpoint of aseptic surgery with regard to the fever department, and what is the attitude of our colleagues of the operation theatre towards it? I think I may make bold to affirm that they will subscribe to this principle, that it is the business of a hospital in which surgical operations are performed to keep fevers, as well as all sources of infection, at the farthest possible distance, and not to attract and invite them, as it were, by the institution of a fever annexe.

The existence of such adjuncts to general hospitals is, in fact, a relic of times which, though not very far distant, must in this respected be regarded as barbarous, when fever cases were admitted freely and indiscriminately into the general wards, and occasionally formed an actual majority of the patients. Such a system, of course, could not last. It has long since been abandoned in the principal cities on the other side of the channel, in which a condition of things such as we have here is almost unknown. In Dr. J. B. Russell's excellent account of the sanitation of Glasgow and its evolution, we read that, in 1818, 60 per cent. of all the patients admitted to the Royal Infirmary had fever. Later on relief was given by the establishment of small parochial fever hospitals. The first Municipal Fever Hospital was opened in 1865; the treatment of fevers was given up in the parochial hospitals in 1872, and no case of infectious disease has been treated in a general hospital since 1876. In 1881, at length, the municipal authority undertook its full responsibility by resolving, "that all classes of citizens suffering from infectious diseases should be treated in hospital, without any charge being made therefor," thus dissociating the treatment of infectious disease from all social depreciation, whether of charity or pauperisation.

Glasgow stands by no means alone in the advance it has made. In every other city in Great Britain remarkable progress has been made on similar lines, and I think I do not exaggerate when I say that we find ourselves in Dublin fully a generation behind them. Our local municipal authority cannot, therefore, be accused of undue haste in adopting their report of January, 1895, recommending the provision of isolation hospitals for Dublin. This report was, I understand, founded on the recommendation of our eminent Medical Officer of Health, Sir Charles Cameron, who suggested that a representative Board, somewhat similar to the London Metropolitan Asylums Board, should be constituted to act as the Local Sanitary Authority for the County of Dublin. This Board, he proposed, should consist of representatives nominated proportionately by the Corporation of Dublin, the three Unions, the Kingstown and Blackrock Town Commissioners, and the various suburban Townships. It should be empowered to exercise control over hospitals for infectious diseases, to erect and equip new ones, and, in short, to take all necessary steps to apply the principle of isolation in the manner I have indicated.

It would be entirely foreign to my purpose to enter into any detailed account or criticism of Sir Charles Cameron's plan. I have found it difficult to discover any serious objection to the Board he proposed, and cannot but think that its operations, for which there is plenty of field, would be fraught with great advantage to the whole community. In the present position of the question, however, I feel that any suggestion or discussion of details would be out of place and premature.

When this reform was first recommended by the Committee of the Corporation, it met, as I have said, with a strong opposition from an unexpected though influential quarter. This opposition has been founded by the critics of the scheme on certain objections which have been publicly stated. Will it be believed that, according to them, the establishment of special hospitals for fever would be prejudicial to the interests of medical education? I yield to no hospital physician in Dublin in my desire to see ample opportunities given for the study of clinical medicine; but, gentlemen, can anyone doubt that the interests of the public, as dictated by the precepts of Sanitary Science, come first, and that the interests of medical education come second? In arranging or re-arranging our hospital system, our guiding principle should be to consider the well-being of the community, in the first instance, and when that has been done to provide the fullest measure of clinical facilities for students compatible with it. It will be generally found, however, that the public advantage, and the advancement of clinical study, are far from being antagonistic; and in this instance, also, I maintain that, instead of clashing, they go forward hand in hand.

The licensing bodies already require the attendance of students at fever hospitals, and as far as the student, therefore, is concerned, the only change will be to substitute for the fever department of a general hospital a special fever hospital ten times the size, and with ten times the amount of material for clinical instruction. It will be difficult, I think, to convince any unprejudiced person that this will be to his disadvantage. Will it not rather have precisely the opposite effect? Is not the establishment of special hospitals in other departments a great boon to students? Let us take another branch of medicine—the practice of Midwifery. Is not the existence of special institutions for this department of incalculable value from a clinical and a scienific point of view? I think these questions may be answered in the affirmative, and one may further assert, without fear of contradiction, that the great reputation which our local Midwifery School enjoys, unrivalled as it is in the British Isles, is mainly, if not wholly, due to the fact that we were first in the field in the foundation of special lying-in hospitals.

I may pass over more trivial matters, and come at once to the only objection made to the proposed scheme which, in my opinion, deserves serious attention, that is, the question of expense. On this point I may remark that it is easy to overestimate the expenditure required, and that if the Board were constituted on the lines originally laid down by Sir Charles

Cameron, the public would have, in the representation of all classes of the community upon it, the surest guarantee against extravagance. The question of expense is one which affects every sanitary reform, and might be equally well held to be an objection to main drainage, or the cleansing of the streets. It should also be remembered that, as the primary object of isolation hospitals is to prevent infection from spreading, the cost of maintaining them will be relatively less, and the benefits resulting from them relatively greater, in proportion to the excellence of the provision made for the immediate admission of patients, and the advantage taken of these facilities by the public. The citizens must, in fine, weigh the advantages to be gained, against the monetary sacrifice they are called upon to make, and they cannot fail to come to the conclusion that it is not only wiser, but, in the end, more economical to deal with this question in a broad spirit than to incur all the expense, misery and death, not to speak of the trading losses, caused by the prevalency of epidemic diseases amongst us.

In order to fortify myself in the position which I have taken up on this question, I have lately collected information as to the practice adopted on the other side of the channel in endeavouring to abate these evils. I have received full statements on the subject from nearly thirty medical officers of health, including those of all towns of over 100,000 inhabitants, which, taken together, constitute such a remarkable mass of evidence on this important question, that I can only regret that the limits of time, which I must impose on myself this afternoon, prevent me from dealing with them as fully as I should wish. Suffice it to say, that, with a few trivial exceptions, the treatment of fever in these towns is entirely divorced from the general hospitals, and in nearly all cases the municipal or other local authority has provided isolation hospitals with beds in proportion to the population for the treatment of zymotic diseases.

I may, perhaps, be permitted to make one or two brief quotations from some of the statements sent. Dr. Boobyer, Medical Officer of Health for Nottingham, writes as follows:—

"We have an isolation hospital capable of accommodating some 230 patients, situated in an enclosure of 12½ acres, and some three miles distant from the centre of the town. Over 90 per cent. of our scarlet fever patients were taken to this hospital last year, and kept at the public expense until clear of infection." And further on he states:—"It was predicted before our hospital was opened that it would never be used to a sufficient extent to justify its erection. It is now voluntarily used by all classes of the community, and pressure is seldom called for to secure the sending in of patients."

Sir Henry Littlejohn, Medical Officer of Health for Edinburgh, has sent me a very full and pertinent communication, from which I take the following extract:—

"No cases of infectious disease are treated in our general hospitals, or in connection with them. Some years ago they were, but as the treatment of infectious cases was recognised as exclusively the duty of the local authority, our general hospitals were relieved of this responsibility, and at the expense of £30,000 the local authority has provided accommodation for infectious diseases. We have a very complete system of notification loyally worked by the medical profession, and the excellence of our hospital arrangements is such that it leads all classes of the community, from the Judges and University Professors down to the very poor, to take advantage of isolation. When a practitioner determines to treat a case at home, we enquire as to the occupation of the inmates of the house, and by letter or otherwise prevent them from going to shops, warehouses or other works, as long as the house is not free from infection. This action in many cases leads to the patient being removed to hospital."

From end to end of the sister island they are engaged in an active crusade against the existence of these diseases. The sources of infection are being diligently sought out and extirpated one by one; and this is done, it must be remembered, as a matter of public policy. The appeal is, in this instance, not to the open-handed charity of our fellow-citizens, but rather to their instinct of self-preservation; and in bringing these somewhat lengthy remarks to a close, I may express the hope that we shall soon witness a renewal of activity, as regards this question, on the part of our representative bodies—an activity which will be directed strictly in the course marked out for it by the canons of sanitary law, which will be consistent with the humanitarian spirit of the age, and which cannot fail to be productive of immeasurable good to the whole community.

NATIONALITY IN CREMATION.

Of the 1,566 bodies that have been cremated at Fresh Pond in N.Y. State more than one-half, that is to say 820, were born in Germany, and only 15 were born in Ireland.—*Med. Rec.*

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—James Little, M.D., F.R.C.P.I.

General Secretary—William Thomson, F.R.C.S.I.

SECTION OF OBSTETRICS.

President—Lombe Atthill, M.D.

Sectional Secretary—Dr. F. W. Kidd.

Friday, April 19, 1895.

The President in the Chair.

Exhibits.

Dr. Alfred Smith showed—(1) A hydrosalpinx of the outer third of the Fallopian tube, which he removed from a young married woman who was sterile. She had complained of constant pain in the left side, with unbearable dyspareunia. There was no history of any inflammatory trouble. The tube was embedded in adhesions. Recovery rapid.

(2) Another example of complete hydrosalpinx, which he removed from a married woman, aged thirty-five. The history was well-marked of inflammatory trouble following the birth of a premature child six years ago. Since that time she had become almost a permanent invalid, and spent her time in various hospitals without benefit; dyspareunia intense. On examination the palpation gave uterus slightly dextro-posed, with a mass which gave the impression of an adherent intestine to the left Fallopian tube, so soft and elastic did it feel. This, on operation, proved to be the distended Fallopian tube embedded in adhesions. Recovery.

(3) A solid myoma of the ovary the size of a goose egg, which he removed from a woman, aged forty-five. Her climacteric was passed, having seen no menstruation for twelve months. She had a fibro-myoma of the uterus, which never gave her any trouble except the inconvenience of getting properly-fitting corsets. For the past year a lump on the left side became very painful. She could not tighten her corset, and had a dread, while walking the streets, of anyone jolting against her, so painful did this lump become. Under ether the tumour was diagnosticated solid ovarian.

The operation proved the diagnosis correct; the large myoma, which was giving no trouble, was not removed. Recovery.

Dr. Glenn asked whether there were any adhesions in either of the two cases of hydrosalpinx. Hydrosalpinx was usually painless.

Dr. Smith replied that there were very extensive peritonitic adhesions in both cases. The pain was probably due to the local peritonitis.

Notes of a Case of Pulmonary Embolism, with some Remarks upon Peripheral Venous Thrombosis. By John H. Glenn, M.D., Ex-Assistant Physician, Rotunda Hospital.

Mrs. J. was delivered of her second child, a large healthy boy, on December 9, 1895. The patient was a tall, exceedingly stout, young woman; the labour was natural and not prolonged. When I arrived the head was born and the perineum required two sutures, which were of silk. She had both before and since her marriage suffered from varicose veins of both legs, and these caused her considerable pain after her first child, and also when carrying the second. Her temperature remained normal, and the perineal wound healed kindly, but on the third day my attention was called to the calf of the left leg, where I found the internal saphenous vein thickened and inflamed, with a distinct area of redness about the size of a florin. The usual treatment was resorted to—namely, elevation of the limb, suitable posture, lotion of lead and opium, covering with cotton wool, and even bandaging.

The case for three weeks displayed some unusual features, as the temperature in the evening remained below 100° F., and the leg displayed none of the usual hard œdema met with in the so-called "white leg." At this time I felt justified in regarding the case as one of simple venous thrombosis, my only anxiety being obstinate constipation with white-furred tongue, the well-known recognised prodromata of phlegmasia alba dolens. With this in mind careful abdominal palpation was practised, but no effusion was to be detected on either side. During the fourth week the vein was to be felt as a distinct hard cord, but the leg, though painful at night and feeling heavy to the patient, was still quite soft. The leg was slightly larger than the right on measurement.

Patient and her friends were warned as to the grave dangers incurred by sudden movements, and she was progressing well, if slowly, up to the 17th of January, 1896, or thirty-nine days after her delivery. On the 18th of January she had some visitors, and feeling so much better probably rather over-exerted herself, for immediately after, when having her leg dressed, she suddenly became faint and breathless, and I was sent for in a hurry. My friend Dr. Flynn, who was kindly doing duty for me, saw her at 9 30 p.m., and found her lying with anxious aspect, rapid breathing, and tumultuously beating heart. Her brother, who is a senior medical student, had, on auscultating before Dr. Flynn's arrival, distinctly heard a systolic murmur, but this disappeared only, however, to return again with increased volume on her second attack, which took place at 5 a.m. So serious had the case become that Dr. Flynn sent for Dr. Parsons at 6 a.m. Dr. Parsons has very kindly furnished me with the following notes:—"I saw Mrs. J. about six o'clock, she was then rather pale and anxious looking; there was no distinct cyanosis, or marked distension of the jugular veins; her temperature was slightly elevated; pulse about 110; respiration somewhat increased in frequency, but there was at the time of my visit certainly no dyspnœa. So far as an examination of the front and sides of the chest was concerned, I could detect nothing abnormal in her lungs. I did not care to move her, as I thought doing so might be attended with some danger. As regards her heart there was no thrill or friction palpable, nor was there any marked displacement of the apex beat. A rather rough murmur, apparently systolic in time, was audible over the mitral area, but was heard with the greatest intensity in the third left intercostal space, about an inch from the left margin of the sternum, and could be traced downwards and inwards towards the end of the sternum. The murmur was loud, single, and had not any of the characteristics of a pericardial friction sound. I recommended digitalis and diffusible stimulants, so as to keep the blood flowing actively and thereby diminish the tendency of a clot to increase in size."

I myself saw the case at eleven and found her with a full pulse, beating at 140, temperature 101°, respirations 40. I made a careful examination of her chest and found a well-marked systolic murmur, with its point of greatest intensity over the tricuspid area. The heart beats were regular, but afterwards became intermittent. She was slightly cyanosed when I saw her, but not the livid purple considered as a proof of spontaneous coagulation rather than embolism. The air was entering the lungs, but not easily, as her attention was concentrated upon the act. She was in a most highly nervous state, and had quite made up her mind to die. There was no bronchitis or pneumonia. I quite agreed with the diagnosis arrived at that it was a case of pulmonary embolism. I have twice before met with it after cœliotomies during my service in the Rotunda Hospital.

The treatment was spts. amm. arom. and spts. ætheris co., with hypodermic injections of morphia to allay her restlessness, which was extreme. Digitalis was exhibited later, and the morphia was changed first to paraldehyde and then to sulphonal, which proved the most serviceable. The murmur persisted for four days, and gradually diminished, while the temperature rose until, on the 22nd, it was 103·4°. Now occurred the most interesting feature of the case; as the murmur passed away a localised area of pneumonic consolidation appeared at the back of the right lung, corresponding to the middle lobe, while at the same time she began to expectorate rusty-coloured sputum. I submit a chart of this local pneumonia, by which nature expelled this embolus; the amount in the twenty-four hours never exceeded half a spitting-cup. Care was taken to keep her off her back, and the case went on from this time favourably; it is interesting to note that the right leg became affected after this attack, but in merely a slight degree. Dr. Parsons saw her on February 20, 1896, and writes: "Her heart seems perfectly normal, but there is still some dulness over the lower portion of the right lung at the back." This dulness has since cleared up, but I believe the pleura is still thickened.

I have brought the above case before the Obstetrical Section, not only on account of the interest which must necessarily attach to a recovery from pulmonary embolism, but also because I regard it as an example of thrombosis apart from sepsis. As long ago as 1877, Spiegelberg stated "that puerperal thrombosis has been far too much mixed up with those complications, and it is desirable that we should study simple uncomplicated thrombosis." An interesting discussion on this point is published in the last volume of the Obstetrical Society of London Transactions, and the bulk of opinion favoured the non-septicity of peripheral venous thrombosis. In the case here before you I fail to see how it could be included under septic, but should like to hear the opinions of those better qualified to judge.

It must, I think, be allowed to be one of two conditions—either spontaneous coagulation in the right heart, and extending into the pulmonary artery, or an embolus detached from a peripheral thrombus, probably floating out of the femoral vein into the vena cava. I have already mentioned why it is not likely to have been spontaneous coagulation. The great majority of emboli found after death come from the systemic veins, and notably from the internal saphenous and femoral veins. The reason of coagula forming most commonly in these situations being—first, that the action of the vis a tergo and thoracic aspiration is scarcely at all felt; and, second, the lying-in state is exceedingly favourable to this condition on account of the state of the blood, the dilated pelvic and femoral veins, and the diminution of the heart's action; while, if we consider these same causes as provocative of varices before delivery, we must add the general rise of abdominal pressure consequent upon the increased dimensions of the uterus. In this puerperal complication it is satisfactory to note that many more recoveries are reported than perhaps is generally recognised, and it is a great satisfaction to me to be able to add yet another.

Dr Parsons said the characters of the friction sound were endocardial and not pericardial. Thrombosis might have occurred in the right auricular appendix, and have produced the murmur. He thought that more probably it was due to an embolus. It was very remarkable that in a month afterwards the heart sounds were perfectly normal. He saw a *post-mortem* on a woman in Vienna who had got up three days after confinement. A large embolus was found completely obstructing the pulmonary vessels.

Dr. Tweedy said pulmonary embolus was a very rare affection. He did not think it would be commoner if women got up six hours after confinement. The orthodox treatment was to give plenty of stimulants, as the patients generally died of shock. In this case, as the woman was not suffering in any way, large doses of ammonia and digitalis might have done harm by washing away the clot into some more dangerous situation.

Dr. Doyle said that some years ago he had brought a patient to the Obstetrical Society who had several attacks of severe dyspnœa after confinement. She was treated with carbonate of ammonia and ether, from which she derived the greatest benefit, and finally made a good recovery.

Dr. Kidd had met with only one case of pulmonary embolism. It occurred a few hours after delivery. The patient died in spite of treatment by stimulants. Some time ago five cases of pneumonia occurred in the Coombe Hospital; three of them died, but no trace of septic trouble or of embolism could be found as the cause of the pneumonia. He thought one of the cases was saved by oxygen inhalation.

Dr. Winifred Dickson thought that inhalations of oxygen would be of more use in combating shock and dyspnœa than stimulants. It could be given more quickly. It was very good for relieving dyspnœa in pneumonia and heart cases, and it might be of use in embolus.

Dr. Smith said the chief point of interest was whether this phlebitis was septic or not. He classified thrombosis under two forms. First, passive thrombosis; it frequently occurred in persons of feeble circulation; the temperature was rather subnormal. Second, where a local inflammatory trouble was found, there was a rise of temperature, and it was generally associated with some form of septic organism. Dr. Glenn's case was not one of passive thrombosis. The septic organisms, however, were not streptococci or staphylococci, for then the woman would never have got well.

Dr. Glenn, replying, said that only 10 minim doses of digitalis were given twice a day. He gave diffusible stimulants, especially ammonia, because ammonia was supposed to have some efficacy in preventing coagulation of blood, and in helping the resolution of blood clots already formed. Oxygen would act quickly, but would not assist the resolution of blood clots. The temperature in this case never rose above 100° F.

Dr. Jellett read "*Notes on a Recent Method of Preparing Catgut Sutures, with Apparatus.*"

The method described is a modification of Dr. Fowler's method. He stores lengths of catgut in glass tubes containing alcohol, and then boils them in water or places them in a steriliser. This is the best way of preparing gut, but cannot be carried out by a surgeon. Catgut is difficult to prepare owing to its nature, and must be absolutely aseptic in consequence of its being absorbed. Gut can be rendered aseptic by means of antiseptics, or by heat. The former are difficult to manage, as the bacteria lie encased in fat, which is with difficulty penetrated by any antiseptic. Heat is more certain, but is difficult to apply without spoiling the gut. Gut can be boiled in alcohol, which boils at 173° F. This heat is not sufficient, it must be superheated. This is Dr. Fowler's method. The modification consists in using a cylindrical brass box with a screw-top instead of a glass tube. The gut is immersed in alcohol in the box and boiled for 15 minutes. It is essential, in order that the gut may be strong, that it should be absolutely dehydrated and rolled very loosely on the plates on which it is kept.

The method recommended is as follows:—(1) Roll the gut *very loosely* on glass plates. (2) Place it in a jar in absolute alcohol, and let it lie there for three or four days. (3) Place the plates in the brass steriliser just covered with alcohol. (4) Place the steriliser in a saucepan containing cold water, and keep it in it for fifteen minutes after the water begins to boil. (5) Remove the gut and place it in a mixture of glycerine and alcohol, which should be changed every ten days.

The steriliser can also be used to render aseptic any substance which cannot be exposed to boiling water as tests ; and also to re-sterilise the glycerine and alcohol in which the gut is stored.

Dr. Tweedy said he had himself been working by different methods at sterilising catgut. Catgut could be boiled without rotting, provided it was dehydrated. It was very difficult to dehydrate catgut in alcohol. It could be easily dehydrated by keeping it in sand, at a temperature of 80°, for three days. He had had a tin steriliser made; the top of it screwed on and had a cock in it. A little alcohol was first put in, and then the dehydrated catgut; the top was screwed on, and it was boiled in boiling water. A coil was attached to the cock, which was turned on, and the alcohol evaporated being caught in the coil, and the catgut was left dry. He wished to know whether Dr. Jellett put anything between the brass steriliser and the saucepan, for, if not, the interior of the steriliser would be heated to a greater extent than the water in the saucepan. Another method which was good was to take a saucepan and put ½-inch of sand in the bottom of it, then some waxed paper over it, and then dehydrated catgut. This was covered over with sand and put on the fire, a thermometer being passed down to the waxed paper. The sand could be raised to a temperature of 380° for 3 hours; it heated pretty evenly, and the catgut was perfectly strong when taken out. Another method was to boil the cat-gut in cumol—an oily substance which boils at 38°. It was very expensive.

Dr. Glenn congratulated Dr. Jellett on the simplicity of the apparatus. He wished to know what was the advantage of it over sterilising in envelopes by dry heat. He found Fowler's tubes very good. Had the catgut been examined bacteriologically? Would chloride of calcium dehydrate catgut ?

Dr. Smith used catgut pretty extensively and never had any trouble with it. He dehydrated it with alcohol, then boiled it in alcohol, and left it in oil of juniper. Chloride of calcium had been used for dehydrating catgut.

Dr. Jellett said he kept the steriliser separated from the bottom of the saucepan, as he had once found the catgut scorched. A dry steriliser had always to be watched. Dr. O'Sullivan had examined the catgut a couple of times and had been unable to grow any cultivations from it. Dr. Smith boiled the catgut in alcohol; but in an open vessel there was not sufficient heat. Kylol and cumol had not the same germicidal power as water or other substance at 212° which penetrated more.

The Section then adjourned.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. Moore, B.A., M.D., Univ. Dubl.;
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Vital Statistics

For four Weeks ending Saturday, October 3, 1896.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000:—

Towns	Weeks ending				Towns	Weeks ending			
	Sept. 12.	Sept. 19.	Sept. 26.	Oct. 3.		Sept. 12	Sept. 19.	Sept 26.	Oct. 3.
Armagh -	28·0	14·0	7·0	21·0	Limerick -	15·4	16·8	14·0	26·7
Belfast -	22·9	18·4	24·3	21·2	Lisburn -	17·0	17·0	4·3	17·0
Cork -	19·4	13·8	18·7	21·5	Londonderry	25·1	15·7	9·4	14·1
Drogheda -	22·0	13·2	8·8	30·7	Lurgan -	27·4	27·4	13·7	13·7
Dublin -	21·5	21·5	15·4	19·5	Newry -	20·1	28·2	12·1	8·1
Dundalk -	16·8	4·2	20·9	16·8	Sligo -	20·3	10·2	15·2	25·4
Galway -	18·9	26·4	15·1	11·3	Waterford -	17·5	15·0	30·0	22·5
Kilkenny -	9·4	28·3	4·7	9·4	Wexford -	0·0	40·6	13·5	18·1

In the week ending Saturday, September 12, 1896, the mortality in thirty-three large English towns, including London (in which the rate was 14·8), was equal to an average annual death-rate of 15·8 per 1,000 persons living. The average rate for eight principal towns of Scotland was 15·9 per 1,000. In Glasgow the rate was 17·4. In Edinburgh it was 13·0.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 21·1 per 1,000 of the population, which, for the purposes of this Return, is estimated at 908,567.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 3·1 per 1,000, the rates varying from 0·0 in nine of the districts to 7·9 in Londonderry—the 16 deaths from all causes registered in that district comprising 2 from scarlatina and 3 from diarrhœa. Among the 122 deaths from all causes registered in Belfast are 2 from measles, 5 from scarlatina, 3 from whooping-cough, 1 from diphtheria, 2 from enteric fever, and 8 from diarrhœa. The 28 deaths in Cork comprise 1 from whooping-cough and 1 from diarrhœa, and the 7 deaths in Waterford comprise 2 from diarrhœa.

In the Dublin Registration District the registered births amounted to 220—116 boys and 104 girls; and the registered deaths to 146—72 males and 74 females.

The deaths, which are 18 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 21·8 in every 1,000 of the population. Omitting the deaths (numbering 2) of persons admitted into public institutions from localities outside the district, the rate was 21·5 per 1,000. During the first thirty-seven weeks of the current year the death-rate averaged 24·2, and was 3·3 under the mean rate in the corresponding period of the ten years 1886–1895.

The number of deaths from zymotic diseases registered was 24, being 1 under the number for the preceding week, and 8 below the average for the corresponding week of the last ten years. The 24 deaths comprise 2 from scarlet fever (scarlatina), 6 from whooping-cough, 5 from enteric fever, and 9 from diarrhœa. The deaths from diarrhœa are equal to the number in the previous week, but 9 below the average for the corresponding week of the ten years 1886–1895. They include the deaths of 8 children under 5 years of age, of whom 6 were infants under one year old.

Twelve cases of measles were admitted to Cork-street Hospital. These were the only cases of the disease received into any Dublin Hospital since the week ended August 1.

The number of cases of enteric fever admitted to hospital, which had fallen from 17 in the week ended August 29, to 9 in the following week, rose to 16. Nine enteric fever patients were discharged, 4 died, and 105 remained under treatment on Saturday, being 3 over the number in hospital at the close of the preceding week.

Twenty-nine cases of scarlatina were admitted to hospital, as against 22 in the preceding week. Thirty-six patients were discharged, 1 died, and 204 remained under treatment on Saturday, being 8 below the number in hospital on that day week.

No case of typhus remained under treatment in hospital at the close of the week.

There is an increase of 6 in the number of deaths from diseases of the respiratory system registered as compared with the preceding week, but a decrease of 3 as compared with the average for the thirty-seventh week of the last ten years. The 15 deaths registered comprise 10 from bronchitis and 3 from pneumonia.

In the week ending Saturday, September 19, the mortality in thirty-three large English towns, including London (in which the rate was 14·6), was equal to an average annual death-rate of 15·1 per 1,000 persons living. The average rate for eight principal towns of Scotland was 17·3 per 1,000. In Glasgow the rate was 17·3, and in Edinburgh it was 16·5.

The average annual death-rate in the sixteen principal town districts of Ireland was 19·3 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·2 per 1,000, the rates varying from 0·0 in eight of the districts to 4·6 in Lurgan—the 6 deaths from all causes registered in that district comprising 1 from diarrhœa. Among the 98 deaths from all causes registered in Belfast are 4 from measles, 1 from scarlatina, 1 from whooping-cough, 1 from diphtheria, 1 from simple continued fever, 5 from enteric fever, and 4 from diarrhœa. The 20 deaths in Cork comprise 2 from diarrhœa.

In the Dublin Registration District the registered births amounted to 215—107 boys and 108 girls: and the registered deaths to 148—76 males and 72 females.

The deaths, which are 11 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 22·1 in every 1,000 of the population. Omitting the deaths (numbering 4) of persons admitted into public institutions from localities outside the district, the rate was 21·5 per 1,000. During the first thirty-eight weeks of the current year the death-rate averaged 24·2, and was 3·2 under the mean rate in the corresponding period of the ten years 1886–1895.

The number of deaths from zymotic diseases registered was 20, being 4 under the number for the preceding week, and 12 below the average for the corresponding week of the last ten years. The 20 deaths comprise 2 from scarlet fever, 1 from influenza, 3 from whooping-cough, 2 from enteric fever, 3 from simple cholera and choleraic diarrhœa, 7—those of 3 infants under one year old and of 4 children aged one year and under 5 years—from diarrhœa. The deaths from diarrhœa show a decline of 2 as compared with the number for the preceding week, and are 10 below the average for the thirty-eighth week of the last ten years.

The number of cases of measles admitted to hospital was 5, being 7 under the admissions in the preceding week. One patient was discharged, and 16 remained under treatment on Saturday, being 4 over the number in hospital on that day week.

Seventeen cases of enteric fever were admitted to hospital, against 16 in the preceding week. Thirteen enteric fever patients were discharged, and 109 remained under treatment on Saturday, being 4 over the number in hospital at the close of the preceding week.

The cases of scarlatina admitted to hospital amounted to 45, against 29 in the preceding week, and 22 in the week ended September 5. Thirty-one patients were discharged, 2 died, and 216 remained under treatment on Saturday, being 12 over the number in hospital at the close of the preceding week.

Eighteen deaths from diseases of the respiratory system were registered, being equal to the average for the thirty-eighth week of the last ten years, and 3 over the number for the previous week. They comprise 12 from bronchitis and 4 from pneumonia.

In the week ending Saturday, September 26, the mortality in thirty-three large English towns, including London (in which the rate was 14·9), was equal to an average annual death-rate of 15·3 per 1,000 persons living. The average rate for eight principal towns of Scotland was 14·4 per 1,000. In Glasgow the rate was 15·9, and in Edinburgh it was 13·0.

The average annual death-rate represented by the deaths registered in the sixteen principal town districts of Ireland was 18·0 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·4 per 1,000, the rates varying from 0·0 in eleven of the districts to 5·0 in Waterford—the 12 deaths from all causes registered in that district comprising 1 from typhus and 1 from whooping-cough. Among the 129 deaths from all causes registered in Belfast are 2 from measles, 5 from scarlatina, 4 from whooping-cough, 3 from enteric fever, and 6 from diarrhœa.

In the Dublin Registration District the registered births amounted to 164—85 boys and 79 girls; and the registered deaths to 104—52 males and 52 females.

The deaths, which are 63 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 15·5 in every 1,000 of the population. Omitting the death of one person admitted to hospital from without the district, the rate was 15·4 per 1,000. During the first thirty-nine weeks of the current year the death-rate averaged 24·0, and was 3·3 under the mean rate in the corresponding period of the ten years 1886–1895.

The number of deaths from zymotic diseases registered was 19, being 10 below the average for the corresponding week of the last ten years, and 1 under the number for the previous week. The 19 deaths consist of 4 from scarlet fever (scarlatina), 1 from influenza, 2 from whooping-cough, 3 from enteric fever, 6 from diarrhœa, 2 from dysentery, and 1 from erysipelas. The deaths (8) from diarrhœa and dysentery combined are 9 below the average number of deaths from these diseases in the corresponding week of the last ten years.

The weekly number of cases of scarlatina admitted to hospital, which had risen from 29 in the week ended September 12 to 45 in the following week, fell to 33. Forty-four scarlatina patients were discharged, 2 died, and 203 remained under treatment on Saturday, being 13 under the number in hospital at the close of the preceding week.

Seventeen cases of enteric fever were admitted to hospital; 16 patients were discharged, 2 died, and 108 remained under treatment on Saturday last, being 1 under the number in hospital on that day week.

Eight cases of measles were admitted to hospital, being 3 over the admissions in the preceding week, but 4 under the number in the week ended September 12. Ten patients were discharged, and 14 remained under treatment on Saturday, being 2 under the number in hospital at the close of the preceding week.

Only 11 deaths from diseases of the respiratory system were registered, being 7 under the number for the preceding week, and 6 below the average for the thirty-ninth week of the ten years 1886–1895. They comprise 6 from bronchitis, 2 from pneumonia, and 1 from pleurisy.

In the week ending Saturday, October 3, the mortality in thirty-three large English towns, including London (in which the rate was 15·0), was equal to an average annual death-rate of 15·7 per 1,000 persons living. The average rate for eight principal towns of Scotland was 17·2 per 1,000. In Glasgow the rate was 18·1, and in Edinburgh it was 14·9.

The average annual death-rate in the sixteen principal town districts of Ireland was 20·0 per 1,000 of the population.

The deaths from the principal zymotic diseases registered in the sixteen districts were equal to an annual rate of 2·3 per 1,000, the rates varying from 0·0 in eight of the districts to 8·1 in Newry—the 2 deaths from all causes registered in that district consisting of 1 from whooping-cough, and 1 from enteric fever. Among the 113 deaths from all causes registered in Belfast are 5 from measles, 4 from scarlatina, 2 from enteric fever, and 6 from diarrhœa.

In the Dublin Registration District the registered births amounted to 211—107 boys and 104 girls: and the registered deaths to 135—68 males and 67 females.

The deaths, which are 18 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 20·1 in every 1,000 of the population. Omitting the deaths (numbering 4) of persons admitted into public institutions from localities outside the district, the rate was 19·5 per 1,000. During the first forty weeks of the current year the death-rate averaged 23·9, and was 3·3 under the mean rate in the corresponding period of the ten years 1886–1895.

Only 16 deaths from zymotic diseases were registered, being 11 below the average for the corresponding week of the last ten years, and 3 under the number for the previous week. They comprise 3 from scarlet fever (scarlatina), 1 from whooping-cough, 1 from diphtheria, 6 from enteric fever, and 3 from diarrhœa.

The number of cases of scarlatina admitted to hospital was 26, being 7 under the admissions in the preceding week, and 19 under the number in that ended September 19. Twenty-nine scarlatina patients were discharged, and 200 remained under treatment on Saturday, being 3 under the number in hospital at the close of the preceding week.

Twenty cases of enteric fever were admitted to hospital, against 17 in each of the two weeks preceding: 21 patients were discharged, 3 died, and 104 remained under treatment on Saturday, being 4 under the number in hospital on that day week.

The number of cases of measles admitted to hospital was 5, being 3 under the admissions in the preceding week, and equal to the number in that ended September 19. Four patients were discharged, and 15 remained under treatment on Saturday, being 1 over the number in hospital at the close of the preceding week.

Twenty-four deaths from diseases of the respiratory system were registered, being 13 over the low number for the preceding week, and 4 over the average for the fortieth week of the last ten years. They comprise 15 from bronchitis and 7 from pneumonia.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ *N., Long.* 6° 15′ *W., for the Month of September*, 1896.

Mean Height of Barometer,	29·707 inches.
Maximal Height of Barometer (on 30th, at 9 p.m.),	30·449 „
Minimal Height of Barometer (on 25th, at 5 30 a.m.),	28·680 „
Mean Dry-bulb Temperature,	54·4°.
Mean Wet-bulb Temperature,	52·5°.
Mean Dew-point Temperature,	50·5°.
Mean Elastic Force (Tension) of Aqueous Vapour,	·370 inch.
Mean Humidity,	87·0 per cent.
Highest Temperature in Shade (on 17th),	68·4°.
Lowest Temperature in Shade (on 21st),	41·1°.
Lowest Temperature on Grass (Radiation) (on 21st),	36·8°.
Mean Amount of Cloud,	58·3 per cent.
Rainfall (on 23 days),	5·073 inches.
Greatest Daily Rainfall (on 4th),	·949 inch.
General Directions of Wind,	W., N.W. S.E.

Remarks.

Unlike the Septembers of 1893, 1894, and 1895—all of which were fine and summer-like—the month under review was throughout unsettled, stormy, and excessively wet. The rainfall was a record one—it amounted to 5·073 inches in Dublin, 5·79 inches at Carrickmines, Co. Dublin, and 7·585 inches at Greystones, Co. Wicklow. At the Ordnance Survey Office, Phœnix Park, it was 4·820 inches. The atmosphere was in a state of most unsettled equilibrium, and several very deep barometrical depressions passed across Western Europe. In Dublin, by a singular coincidence, the mean maximal and minimal temperatures, and the mean temperature derived from the daily extremes were all practically equal to the averages for September. The mean atmospheric pressure was, however, largely in defect.

In Dublin the arithmetical mean temperature (55·8°) was exactly the average (55·8°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 54·4°. In the thirty-one years ending with 1895, September was coldest in 1886 and in 1882 (M. T.=53·0°), and warmest in 1865 (M.T. = 61·4°). The three warmest Septembers experienced in Dublin of late years have been—1865 (M. T. = 61·4°), 1890 (M. T. = 59·6°), and 1895 (M. T. = 59·1).

The mean height of the barometer was 29·707 inches, or 0·203 inch below the corrected average value for September—namely, 29·910 inches. The mercury rose to 30·449 inches at 9 p.m. of the 30th, and fell to 28·680 inches at 5 30 a.m. of the 25th. The observed range of atmospheric pressure was, therefore, 1·769 inches—that is, a little more than an inch and three-quarters.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 54·4°, or 3·1° below the value for August, 1896. Using the formula, *Mean Temp.* = *Min.* + (*max.* — *min.* × ·476), the mean temperature was 55·5°, or exactly equal to the average mean temperature for September, calculated in the same way, in the twenty-five years, 1865–89, inclusive (55·5°). The arithmetical mean of the maximal and minimal readings was 55·8°, compared with a twenty-five years' average of 55·8°. On the 17th the thermometer in the screen rose to 68·4°—wind, S.W.; on the 21st the temperature fell to 41·1°—wind, S.E. The minimum on the grass was 36·8°, also on the 21st.

The rainfall was 5·073 inches, distributed over 23 days. This was a record measurement, being more than double the average. The average rainfall for September in the twenty-five years, 1865–89, inclusive, was 2·176 inches, and the average number of rainy days was 14·7. In 1871 the rainfall was very large—4·048 inches on, however, only 13 days. On the other hand, in 1865, only ·056 inch was measured on but 3 days. In 1893, ·729 inch fell on 14 days; in 1894, only ·442 inch on 8 days; and in 1895, only ·543 inch on 7 days.

High winds were noted on fifteen days, and attained the force of a gale on seven occasions in Dublin—the 14th, 16th, 17th, 22nd, 23rd, 25th, and 27th. Lightning was seen on the 9th, 10th, 12th, and 27th. The atmosphere was foggy on the 4th and 9th. Hail fell on the 19th. A lunar halo was seen on the 16th, a solar halo on the 18th.

During the period ended Saturday, the 5th, the weather was changeable and unsettled generally, but a very fine spell was enjoyed in and near Dublin up to the evening of Thursday the 3rd, when heavy rain set in. At the beginning an area of relatively high pressure lay over the West of Ireland, while a depression moved across England, enlarging its borders and becoming both deeper and more complex. The result was that thunder and lightning and heavy rains occurred in many parts of Great Britain. On the morning of Thursday the 3rd, a new depression was found off the extreme S.W. of Ireland, so that the weather broke in this country also, and at night thunderstorms were reported from Roche's Point and Valentia Island, while ·430 inch of rain fell in Dublin and ·760 inch at Greystones. After a dull damp day the downpour was renewed on Friday evening and continued through the night—the measurement in Dublin on Saturday morning being ·949 inch. After 9 a.m. of Saturday the weather improved, becoming in the end bright and bracing. In Dublin the barometer ranged from 30·061 inches at 9 a.m. of Tuesday (wind, N.N.W.), to 29·766 inches at 9 p.m. of Friday (wind, N.E.). On Wednesday the screened thermometers fell to 48·7°, on Thursday they rose to 65·4°. The rainfall was 1·382 inches on two days, ·949 inch being registered on Friday. The prevailing winds were N.W. and N.E.

Very unsettled, thundery, and rainy weather prevailed during the greater part of the week ended Saturday, the 12th, over the British Islands, France, and Germany. At the beginning, however, a spell of fine weather was enjoyed, especially in Ireland, where moderate N.E. winds blew on Sunday, in connection with a high pressure system which stretched south-westwards to this country from the extreme N.W. of Norway. Already on Monday morning a disturbing element showed itself in the form of a large area of relatively low pressure, which was at that time moving northwards from the Peninsula. This system steadily advanced over the Bay of Biscay, grew deeper, and threw out various secondary areas of low pressure, in connection with which storms of thunder, lightning, rain and hail developed in many French and English districts. By Wednesday morning the centre of low pressure had reached Cornwall, whence it stretched across to Kerry. On Thursday morning it was passing out north-westwards over the Atlantic from Mayo and Donegal, but a new depression had reached the mouth of the English Channel travelling towards E.N.E. This caused a renewal of the electrical disturbances in France and England. At 3 p.m. of Thursday a violent and very destructive whirlwind passed over Paris, preceded by torrents of rain. In the course of the nights of both Thursday and Friday, further depressions crossed Ireland from the southward, accompanied by squally S.E. or S. winds and heavy rains. Sunny, warm intervals were enjoyed in the daytime—the changes from fair to foul weather and back again being unusually sudden and frequent. In Dublin the barometer ranged between 30·076 inches at 9 p.m. of Sunday (wind, N.E.), and 29·300 inches at 11·45 p.m. of Saturday (wind, S.E.). The mean atmospheric pressure was 29·719 inches. The corrected mean temperature was 59·1°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 57·9°. On Sunday the screened thermometers fell to 52·9°, on Saturday they rose to 67·7°. Rain fell on five days to the total amount of 1·379 inches, ·239 inch being measured on Friday and ·850 inch on Saturday. The prevalent wind was S.E. Lightning was seen on the evenings of Wednesday, Thursday, and Saturday.

The atmosphere over North-Western Europe was in a very perturbed state all through the week ended Saturday, the 19th. A series of large and deep depressions traversed the Atlantic and Norwegian Sea in a north-easterly direction, while secondary low pressure systems spread eastwards across the British Islands towards Central Europe. Connected with these barometric disturbances, copious rains fell from time to time in nearly all districts, and moderate to fresh or even strong gales blew from S., S.W., or N.W. at exposed points on the British and Irish coasts. On Tuesday and again on Friday morning the barometer sank below 29 inches—on the former occasion to 28·99 inches at Christiansund in Norway, on the latter to the same point at Sumburgh Head in the Shetlands. In Dublin the week was ushered in by strong southerly winds and torrents of rain early on Sunday morning. The day proved fine. Gales occurred on Monday, Wednesday, and Thursday—the last being the most severe. It was followed by a brisk decrease of temperature, so that on Friday the thermometer failed to touch 60° in the shade, whereas on Thursday it had risen to 68·4° in front of the storm. Thunder and lightning occurred in the S.E. and E. of England on Sunday, and at some Scotch stations on Tuesday and Wednesday. A lunar halo appeared on Wednesday evening, and a solar halo on Friday forenoon. Heavy hail and rain showers fell on Saturday afternoon. In Dublin the mean atmospheric pressure was 29·608 inches, the barometer ranging between 29·114 inches at 1 30 p.m. of Monday (wind, S.W.) and 29·923 inches at 9 p.m. of Wednesday (wind, W.S.W.). The corrected mean temperature was 56·6°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 54·2°. On Thursday the screened thermometers rose to 68·4°, on both Friday and Saturday they fell to 47·7°. The rainfall was ·415 inch on six days, ·241 inch being measured on Monday. The prevalent winds were S.W., W., and W.N.W. Hail fell on Saturday.

As to the week ended Saturday, the 26th, yet another spell of storm and rain has to be recorded. In this period, besides other second-rate disturbances, two storm-centres of great intensity sped rapidly across the British Isles in an easterly direction—the first on Monday night, the second on Thursday night. Both systems caused downpours of rain and violent gales from different quarters all over Western Europe, and even when the main disturbances had passed away the weather was kept in an unsettled, showery, squally condition by the arrival of secondary shallower depressions from the Atlantic. Sunday broke fair and cold, with N.W. winds. Heavy showers fell as the day advanced. A very cold night ensued, the thermometer falling in the shade to 41° in Dublin, 40° at Donaghadee, 39° at Parsonstown, 38° in London, 37° at Shields, York, and Cambridge, and 34° at Loughborough. On Monday a general reduction of atmospheric pressure took place in advance of the deep depressions of Tuesday and Friday, and the weather became broken and rainy. At 2 p.m. of Tuesday the barometer was down to 28·78 inches in Dublin. In the evening the wind rose to a fresh or even a whole gale from W. and N.W. Squalls and heavy showers prevailed on Wednesday, but the weather improved in the afternoon. By 8 a.m. of Thursday the cyclonic centre had reached Copenhagen. On this day the sky became overcast with sheet cirrus, and at night another and still deeper depression swept eastwards across Ireland at the rate of some 60 miles an hour. The centre passed near Dublin about 5 30 a.m. (Irish time), reaching Liverpool at 8 a.m. (English time)—the barometer fell to 28·66 inches near the centre. A secondary depression followed on Saturday morning. In Dublin the mean height of the barometer was 29·517 inches, pressure ranging between 29·831 inches at 9 p.m. of Wednesday (wind, W. by N.), and 28·680 inches at 5 30 a.m. of Friday (wind, N. by W.). The corrected mean temperature was 51·8°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 51·7°. On Tuesday the screened thermometers rose to 62·5°, having fallen to 41·1° on Monday. The rainfall was 1·406 inches on 7 days, ·449 inch being registered on Thursday. The rainfall at Greystones, Co. Wicklow, was 3·070 inches, of which 1·290 inches fell on Monday. The prevailing wind was W.N.W.

Changeable, showery, chilly weather continued to the 29th, when conditions temporarily improved owing to the formation of an anticyclone over the southern portion of the United Kingdom. On the 30th the barometer rose to about 30·50 inches near the centre of this high pressure system. On the morning of Sunday, the 27th, there was a S.W. gale, in front of which temperature rose to 64·6°. As the day advanced a brisk fall of the thermometer occurred, there were heavy showers, and lightning was seen in the evening over the Irish Sea. The 30th was the finest day enjoyed for several weeks.

The rainfall in Dublin during the nine months ending September 30th amounted to 19·537 inches on 143 days, compared with 10·968 inches on 112 days during the same period in 1887, 22·301 inches on 156 days in 1894, 20·876 inches on 130 days in 1895, and a twenty-five years' average of 19·734 inches on 142·8 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall was 7·585 inches distributed over 24 days. Of this quantity 1·290 inches fell on the 21st, and ·940 inch on the 24th. At that station the rainfall since January 1, 1896, has been 21·912 inches on 115 days, compared with 23·883 inches on 125 days in the same nine months of 1892, 17·091 inches on 118 days in 1893, 25·896 inches on 137 days in 1894, and 23·665 inches on 117 days in 1895.

At Cloneevin, Killiney, Co. Dublin, the rainfall in August was 1·63 inches on 16 days (the maximal fall in 24 hours being ·40 inch on the 17th), compared with a ten years' average of 2·917 inches on 15·9 days. In September 5·17 inches fell at Cloneevin on 23 days. The maximal fall in 24 hours was ·87 inch on the 4th. On an average of ten years the September rainfall at this station has been 1·530 inches on 11·6 days. Since January 1, 1896, 20·50 inches of rain have fallen at Cloneevin on 129 days. The rainfall in the first nine months of the year at Cloneevin was 22·92 inches on 150 days in 1894, 21·58 inches on 129 days in 1895. Of the 20·50 inches measured up to September 30 in 1896, 11·89 inches fell on 43 days in the two months—July and September. The exceptional character of the rainfall in September, 1896, may be gathered from the fact that the greatest fall previously recorded in September at Cloneevin was 3·47 inches, on 17 days, in 1885.

At Brenanstown House, Cabinteely, Co. Dublin, the September rainfall was 5·55 inches; at Claremont, Carrickmines, it was 5·79 inches.

BREAD.

VIENNA bread is made with plain compressed yeast, English bread chiefly with a yeast grown in a mixture of malt and hops, Scotch with a flour-grown yeast, "leavened" bread with dough held over from a previous baking, which causes peptonisation and not alcoholic fermentation. In the Hovis flour the germs are first destroyed by superheated steam, as they otherwise keep badly; and in the London aerated bread a stale malt and flour yeast is used as well as carbonic acid pumped into the dough. A bread made from wood is largely employed in feeding the Berlin tram horses.—*The Hospital.*

PERISCOPE.

"THE LARYNGOSCOPE."

We have received the first issues of a new American monthly journal devoted to the diseases of the throat, nose, and ear, called *The Laryngoscope*. The periodical is edited by Drs. Frank M. Rumbold and M. A. Goldstein, and is published at St. Louis. It contains articles—most of them valuable—by well-known authors on the diagnosis and treatment of diesases coming within the limits of its specialty. One particularly valuable paper, by Dr. Dundas Grant, on "The Clinical Investigation of Ear Diseases," formulates the methods of examination, and directs attention to points liable to be overlooked. A short paper on "Electrolysis for the Reduction of Spurs of the Nasal Septum," by Dr. Casselberry, is distinctly retrograde. The substitution of electrolysis for established methods, such as the saw, is like trying to improve on the hammer for driving nails. The author, in fact, himself summarises it as "more tedious and less brilliant than the surgical method." There are many interesting clinical reports and editorials, and much useful information concerning the uses of new drugs, especially in the nose and pharynx. *The Laryngoscope* is a valuable addition to the literature of the throat, nose, and ear.

ARMY MEDICAL SCHOOL, NETLEY.

British Medical Service—The following is the official list of surgeons on probation of the Medical Staff of the British Army who were successful at both the London and Netley Examinations. The prizes are awarded for marks gained in the special subjects taught at the Army Medical School. The final positions of these gentlemen are determined by the marks gained in London added to those gained at Netley, and the combined numbers are accordingly shown in the list which follows:—

July 31st, 1896.

		Combined Marks			Combined Marks
1	Birrell, E. T. F.	5,255	6	MacDougall, A. J.	4,072
* 2	Cochrane, E. W. W.	4,600	7	Clements, R. W.	3,994
3	Morris, A. H.	4,372	8	Swabey, M.	3.873
4	Riddick, G. B.	4,152	9	Hewetson, H.	3,793
5	Archer, S. A.	4,114			

* Gained the Parkes' Memorial Medal.

INDIAN MEDICAL SERVICE—Appended is the official list of surgeons on probation of the Indian Medical Service who were successful at both the London and Netley Examinations. The prizes are awarded for marks gained in the special subjects taught at the Army Medical School. The final positions of these gentlemen are determined by the marks gained in London added to those gained at Netley, and the combined numbers are accordingly shown in the list which follows:—

July 31st, 1896.

		Combined Marks			Combined Marks
[a] 1	Walton, H.	5,907	10	Brown, H. R.	4,439
[b] 2	Ainsworth, H.	5,606	11	Richards, W. G.	4,435
[c] 3	Pinch, A. E. H.	5,010	12	James, S. P.	4,357
4	Dickson, H. A. D.	4,980	13	Fleming, A. N.	4,313
5	Stevenson, J. S.	4,940	14	Dee, P.	4,307
6	Smith, F. A.	4,915	15	Mell, F. O. N.	4,186
7	Cornwall, J. W.	4,791	16	Brown, F. D.	4,153
8	Miller, A.	4,561	17	Dick, M.	4,151
9	Hammond, F. A. L.	4,472			

The prizes were presented by Field-Marshal the Right Honorable G. J. Viscount Wolseley, K.P., G.C.B., G.C.M.G., Commander-in-Chief.

MARION SIMS' START.

(FROM Dr. James T. Jelks' Address at Barnes Medical College, St. Louis, Mo., reported in *Journal of the American Medical Association*):—"In a little village in South Carolina, in 1836, a young man hung out his shingle for the purpose of practising medicine. In a month or two the leading man of the village called on him and said, 'Marion, have you had a case yet?' Being answered in the negative, he was told to go up to the man's house, that the baby was ill. The young doctor went and found a very sick child. He thought the child had cholera infantum; told the family to send to his office in one hour and he would have the medicine ready. To his office he went, and got down from his bookshelf 'Eberle on Children,' the text-book of that day, and began to read up on cholera infantum, As the time drew near for Jennie to come for the medicine he was no more enlightened than when he began to read. One peculiarity of Eberle's book was, that there was a prescription on nearly every page. Well, in the young man's bewilderment he did not know what better he could do than to fill the first prescription, and he did it. In after years I heard him tell about it, and he remarked that 'he turned a page on that baby every day, and filled the next prescription.' When he got along toward the end of his prescriptions, the baby was ready to be transplanted as a rosebud to paradise, but the doctor did not know it. He had never seen death. He had heard the best of lectures, but had never seen sickness: there was no clinical teaching of medicine then. He paid a final visit to the child, and while sitting beside it and watching the little sufferer, suddenly it stopped breathing. Immediately the doctor picked the baby up, lowered its head, and lifting its legs in the air shook it, thinking the child had fainted and that he would thus get some blood into its brain and revive it. The old woman, who had come in to see the child and incidentally to size up the young doctor, placed her hand on his shoulder and said, 'Doctor, you need not shake that baby; it is dead!'"

---

[a] Gained the Martin Memorial Medal and the 1st Montefiore Prize of 20 guineas.

[b] Gained the Maclean Prize for Clinical and Ward Work, and a Prize in Pathology.

[c] Gained the Herbert Prize of £20; the Prize in Pathology presented by Surgeon-General Sir Joseph Fayrer, Bart., K.C.S.I.; and the de Chaumont Prize in Hygiene; and the 2nd Montefiore Prize.

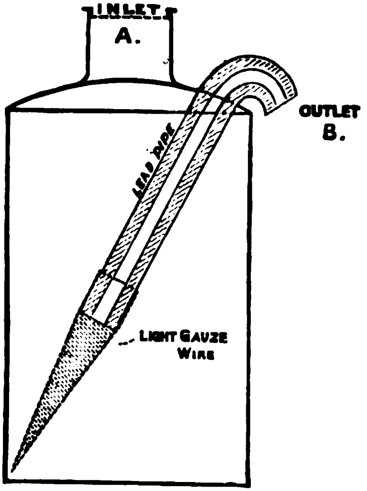
NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

Midlothian Oat Flour.

MESSRS. A. & R. SCOTT, 28 Buchan-street, Glasgow, have submitted to us samples of their Midlothian oat flour and biscuits. This oat flour should be a most wholesome and nutritious article of diet for general use, but especially for infants, young children, invalids, and persons of weak digestion. It is rich in flesh and bone-forming properties. Analyses show that it contains phosphoric acid in ash ·87; potash ·37. Mr. H. C. Bartlett, Ph.D., F.C.S., of London, says:—"These are remarkable proportions of bone-forming matter, and greatly exceed those found in wheat meal and flour. The results are highly satisfactory, and your preparation is certainly the best I have ever examined." Dr. Wm. Wallace, Public Analyst for Glasgow, Perth, Ayr, &c., in his report says:—"I have made a careful chemical analysis of Scott's Midlothian oat flour, and have found it to have the composition of oat meal of the finest quality, minus the husk, of which even the finest oat meal contains a portion. It has a very pleasant flavour, and is admirably adapted for children and invalids." The oat flour biscuits, in addition to the fact that they are easily digested and possessed of highly nourishing properties, are very palatable and crisp.

A New Patent Automatic Disinfector.

This is an apparatus for automatically distributing a given quantity of any suitable concentrated disinfectant to every flush of water discharged from a water-closet cistern. Its action is as follows:—A can, containing 1,500 charges of solution of permanganate of potassium, on being placed at the bottom of a flushing cistern as directed, immediately becomes filled with water, and every time the operation of flushing takes place and the level of the water in the cistern falls below the cap on top of the can, a quantity of the disinfectant in solution equal to the amount of water contained in the cap will be discharged through a curved outlet pipe at the side, the bottom end of which is covered by fine gauze wire to prevent choking. The sketch shows the apparatus at work.



It is evident that by this simple device—(1.) The disinfectant cannot be wasted between flushes. (2.) The quantity used is measured each time the cistern flushes the closet. (3.) There is nothing to get out of order, consequently the action of the apparatus is certain. (4.) It can be fixed by anyone, no skill or special knowledge being needed.

The patentees are the Auto-Disinfector Company, 93 Northumberland-street, Liverpool, S.

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Some Results of
MODERN PHARMACEUTICAL PROGRESS.

Thyroid Gland “Tabloids.”

Recent clinical reports of cases under the thyroid treatment emphasise the fact that full activity is alone secured by the use of the gland in the form of compressed “tabloids.” Beyond this these reports bear adequate testimony to the reliability of thyroid “tabloids” and their freedom from the tendency to produce thyroidism. An important article in a recent number of the *Deutsche Med. Wochenschrift* contains the following striking paragraph:—“In the course of two-and-a-half years over 100 patients were treated. In the many thousand ‘tabloids’ from Burroughs, Wellcome & Co. which were employed a disagreeable odour was never present. From the records of sixty-eight patients it is manifest that by careful use of Thyroid Gland ‘Tabloids’ bad results are not to be feared. In one case in which forty ‘tabloids’ were given daily there were no disagreeable secondary effects. Diarrhœa or increased temperature was never observed.” In the *British Medical Journal* and other professional publications will be found full details of cases of sporadic cretinism, myxœdema, idiocy, lupus, psoriasis, acute and infantile eczema, ichthyosis, &c., successfully treated with Thyroid “Tabloids” (B., W. & Co.).

They are supplied to the Medical Profession in bottles of 100 1¼*-grain “Tabloids” at* 10d., *and* 100 5*-grain “Tabloids” at* 2s. *per bottle.*

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“Emol-Keleet” is the distinctive name given to a natural product, unsophisticated in any way, but refined and purified by various intricate processes. It is a delicate, soft, impalpable powder, possessing a slight pink tint due to the presence of a trace of oxide of iron. As a dusting powder it appears to be especially valuable, showing marked absorbent, anti-pruritic, and emollient qualities, which, together with the fact that it is absolutely stable, make it an ideal diluent for such antiseptic agents as Loretin, Dermatol, Iodoform, Hydro-naphthol, Boric Acid, &c. With Iodoform especially “Emol-Keleet,” prevents packing and renders the antiseptic much more manageable.

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Saccharin and Saccharin “Tabloids.”

Without doubt that dietetic regimen which forbade the use of sugar was in the past a severe penance to patients to whom, although harmful, the usual sweetening agent had become almost indispensable. Medical practitioners will recall many cases of diabetes, obesity, glycosuria, gout, &c., in which their most stringent orders have given way before the intense longing for the accustomed sweetness of food and drink. Saccharin possesses sweetening powers immensely superior to those of sugar, and can be used without the least harm for any length of time, as it passes unchanged through the system. Undoubtedly the most palatable and convenient form for daily use is the Saccharin “Tabloid.” The patient can carry ample supplies of these compressed Saccharin “Tabloids” without inconvenience—and there is no tendency, even when away from home, to break through the regulations of the physician.

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BURROUGHS, WELLCOME & CO., Snow Hill Buildings, LONDON, E.C.

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DECEMBER 1, 1896.

PART I.

ORIGINAL COMMUNICATIONS.

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ART. XVIII.—*Some Surprises and Mistakes.*[a] By **WILLIAM THOMSON**, President of the Royal College of Surgeons in Ireland; Direct Representative for Ireland on the General Medical Council; Surgeon to the Richmond Hospital, &c.

I FEEL to-night somewhat out of place in having transferred my seat from amongst the general audience to take, for a time, that of your President. I accept my new position with a full sense of its great honour and dignity; but I cannot help remembering that it has entailed my severance from the high office of General Secretary of this Royal Academy of Medicine, which I have filled since its foundation, and of which I have always been—as any man ought to be—very proud. The Fellows of this College have, however, called me to be their President, and in that capacity I begin to-night duties which will, I know, always be instructive to me, and I hope pleasant to all of us.

May I say a word thus early in regard to the attendance. I have sometimes noticed that our meetings were thinner than they ought to be, and that some who could confer much benefit upon us by their experience and their incisive criticism have not always given us the help they might have given. As one grows older there is a tendency to take the rest of home after the increasing duties of the day have been performed. But we are never too old to learn—or, for that matter, to teach. And there is here, growing up about us, a younger generation—not, I hope, above taking note of some of the experiences of their elders by which they may profit in some way. We have a duty to discharge to them, just as we ourselves are debtors to our predecessors. May I, then, hope that in this respect our Session will be as bright and vigorous as many that have gone before, and that the meetings of the Surgical Section will continue to be as attractive as they have been.

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[a] An Introductory Address delivered at the Surgical Section of the Royal Academy of Medicine in Ireland, on Friday, November 13, 1896.

I had intended, until a few days ago, to depart from the usual custom here, and to allow you to proceed at once to the ordinary business of the Section, because much pressure had prevented me giving attention to the subject-matter of an Address. But I learned that it was expected that I should say something in the way of formal opening of our Session; and so, in the hurry, I have gathered up a few facts which may not be without some interest to surgeons, and which I put under the title of "Some Surprises and Mistakes."

I think, as a rule, that most students have in their early days a good deal of trust in the sequence of events. They are enamoured by the newness of all around them in the hospitals; they have plenty of work to do, and those who do it have not time to be sceptical. They take what the books tell them so definitely, as though under no circumstances is it possible that there should be any deviation from the course of things as there described. Later on they have their faith disturbed as experience grows; but yet to the oldest of us there still remains a belief that under certain conditions certain things must happen. There is deep down in our minds the conviction "that when the brains wear out, a man must die, and there an end;" but how that is upset by our experience! There, for example, is the famous case of the man through whose frontal lobes a heavy iron jumper was driven by a blast, and who recovered. I have seen a man who had lost a portion of his occipital bone, as large as the palm of my hand, and a cupful of brain substance, and yet years afterwards he did not seem to be anything the worse. It is true that these, what I may call "accidental experiments," have helped us to be less fearful of interference with the brain, but always with the exactitude which has been helped by deliberate research. Still, for the greater part, these rough tearings and bruisings of brain tissue are fatal; and even when with our later and better knowledge they are recovered from, they are "surprises." As our experience grows we encounter them. We—and I include physicians as well as surgeons—see cases which according to all rule ought not to live. The prognosis is, a fatal result; and yet they do well, and disappoint our certainties by their recovery. And then there are those cases which die, and we do not really know why. A man gets a scratch which ought not to hurt a child, and he dies none the less surely of shock than if he had suffered some terrible crushing injury of internal organs. What are the curious conditions in the two classes of cases—the powerful vital resistance, as we call it, in the one, which is effective against forces which we regard as unconquerable; and that other class in which vitality is so low and the nervous system so sensitive that it yields at once to what is almost a pretence of injury?

Just let me leave these suggestions for inquiry or speculation, and give you one or two examples of many which have come under my own notice. An old man was sent to me as suffering from appendicitis. He had had an attack, undoubtedly, but it had cleared up. The only signs remaining were a slightly raised temperature and a thin strip of dulness extending upwards to the iliac crest. I made an opening, and found a little pus and an extensive granulation-lined cavity. I scraped it out and drained in the usual way. All went well; but in about a week I was startled to hear that there had been a noisy discharge of flatus from the wound and a sign of fæces on the dressings. When I saw him there was no escape of gas, but the next day I found on the dressings a fæcal concretion quite like a large nutmeg in shape and colour. Of course it had come from the intestine into the abscess cavity, and had perforated the gut wall. But how had this great mass passed through without leaving a large fistulous track with fæcal extravasation and perhaps worse? There was never again any sign of escape of bowel contents, either solid or gaseous; and the patient, having been delivered in this way of his concretion, got quite well without further trouble. It is. I think, plain that, although the final act of extrusion took place when the flatus escaped, the opening in the bowel did not then correspond to the actual size of the concretion. Probably the gut at one point became identified by adhesion with the surrounding inflamed area, grasping and closing slowly behind the mass as it passed through into the external cavity. The escape of flatus came from what remained of the opening just before the final closure. Whatever the process, the result was one of those "surprises" that come to us, for the passage of so large a mass through the intestinal wall and its discharge externally, without causing any permanent mischief, shows what nature may do unaided by the surgeon's skill.

In the early part of this year I saw a gentleman who was suffering from a growth in the nose. I recommended him to see Dr. Woods, and I saw him later on with Sir Thornley Stoker and Dr. Woods. We came to the conclusion that he was suffering from a malignant tumour of the antrum which had extended to the nose. We recommended an exploratory operation, and, if our opinion was confirmed, that the jaw should be at once removed. He refused the larger operation. The exploration was made by Dr. Woods. We found that the tumour did extend from the antrum, into which I could bore my finger easily. Dr. O'Sullivan, Professor of Pathology in Trinity College, declared the growth to be a round-celled sarcoma. Of that there is no doubt. The tumour returned in a couple of months, and the patient then saw Dr. Sémon in London, who advised immediate removal of the jaw. He returned home, and after a further delay he asked to have the operation performed. I did this in May last, by the usual method. I found the tumour occupying the whole of the antrum. The base of the skull was everywhere infiltrated. The tumour had passed into the right nose, and perforated the septum so as to extend into the left. It adhered to the septum around the site of perforation. This was all removed, leaving a hole in the septum about the size of a florin. He went home within a fortnight. In a month the growth showed signs of return. It bulged through the incision and protruded upon the face. Dr. Woods saw him soon afterwards, as I had declared by letter that a further operation would be of no avail. The tumour had now almost closed the right eye. It was blue, tense, firm, lobulated, but it did not break. Dr. Woods reported the result of his visit to me, and we agreed as to the prognosis. Early in October the patient walked into my study after a visit to Dr. Woods. He looked in better health than I had ever seen him. The tumour had completely disappeared from the face, and I could not identify any trace of it in the mouth. He said he had no pain of any kind. He could speak well when the opening remaining after the removal of the hard palate was plugged, and he was in town to have an obturator made. He has since gone home apparently well. He told me he had applied poultices of comfrey root, and that the swelling had gradually disappeared.

Now this was a case of which none of us had any doubt at all, and our first view was confirmed by the distinguished pathologist whom I have mentioned and by our own observation at the time of the major operation.

Here, then, was another "surprise." I am satisfied as I can be of anything that the growth was malignant and of a bad type. Of course we know in the history of some tumours that growth is delayed, and that in the sarcomata recurrence is often late. But this is a case in which the recurrence occurred twice—the second time to an extreme degree; and yet this recurrent tumour has vanished. What has produced this atrophy and disappearance? I do not know. I know nothing of the effects of comfrey root, but I do not believe that it can remove a sarcomatous tumour. Of course the time that has so far elapsed is very short; but the fact that this big recurrent growth no longer exists—that it has not ulcerated or sloughed away, but simply, with unbroken covering, disappeared—is to me one of the greatest "surprises" and puzzles that I have met with.

But let me turn to the other topic upon which I have still to speak to you—"mistakes." I confess to having made some in my life. It is often complained that we hear much of the successes of surgery and medicine, but little of the failures and hardly ever of the errors. I am not ashamed to say that I have erred in diagnosis, and I know that I have seen others blunder too. When one is in that unpleasant predicament it is satisfactory to know that he is in good company—always supposing that the patient does not suffer from his default. I am afraid that there are none who can truly claim omniscience, although they sometimes look as if they did. But so long as Surgery is what it is, errors will be committed; and perhaps it would help to make them less if we were only courageous enough to say so; to point out wherein we failed, and to give some warning to others which might help to save them from mistakes.

In 1892 a gentleman consulted me for a bad throat. He was seventy-five years of age, and his story was that his throat had been sore for about two months. He spoke with a marked nasal tone. I found the right soft palate and a considerable part of the hard palate occupied by a malignant-looking flattened growth projecting from the surface about an eighth of an inch. There was an ulcer on the free margin of the palate extending to the tonsil. Externally, at the angle of the jaw, was a mass of enlarged glands, fixed, and without pain. There had been a good deal of sanious discharge from the nostril, and the posterior naris was blocked by pressure of the engaged tissues. The structures over the alveolar process of the upper jaw, at the posterior part, were infiltrated and resisting. I had no doubt that it was a malignant growth, and I said so. I advised that nothing should be done save the use of a simple antiseptic lotion. Two months later I had a letter to say that a necrosis had set in in the parts, and that the whole engaged structures had sloughed away. The fœtor was described by Dr. Rutherford as so abominable that he could not stay in the room many minutes. But in the result the ragged chasm left granulated and healed, and the patient is alive to-day at the age of seventy-nine.

Now here was a "mistake," fortunately corrected by nature. I had no doubt that my diagnosis was right, but it must have been wrong. Sometimes, it is true, such endings have been noticed in the case of sarcomatous growths, but this was, I believed, an epithelioma, and I have not heard of such happy endings in cases of that class. I can only say that probably others would have judged as I did, and that the evidence seemed strong enough to justify my opinion. But although the growth presented the ordinary clinical characters of epithelioma, and gave evidence of secondary deposit, it is, I think, obvious that it was not of that character. The possibility of its having been a gumma, which ultimately broke down and sloughed away, is, of course, to be considered, although in the particular case I have reason for believing that there was no syphilitic history. Still I regard it as an error, and I have so scored it against myself.

Our Secretary, Mr. Lentaigne, will remember that when he was House Surgeon at the Richmond he called me to see a case of supposed strangulated labial hernia. The woman had been admitted the night before suffering from symptoms which had come on suddenly. She had had a lump in her groin which had suddenly become larger, painful, and tense, and then there followed vomiting and great prostration. A short examination was made. The tumour extended from the external abdominal ring into the left labium, and it was so tense that I at once ordered her to be brought to the theatre, where, under an anæsthetic, I was able to make out the presence of fluid, and I felt sure that I had to deal with a strangulated hernia, with an excessive quantity of serum in the sac. Others concurred in that view. I ventured to say, however, from the general appearance of the tumour, that if the patient were a man I should call it a hydrocele. A free incision soon settled the doubt, for hydrocele fluid gushed out with great force.

There was no hernia at all. The case was a hydrocele of the canal of Nück, of which I had never then seen an example, although I have seen two since. But although the case was an obscure one, and the symptoms lent colour to the original diagnosis, it was a "mistake," but a mistake which has served me well since that time.

Once, with the concurrence of my colleagues, I removed what I supposed to be a testicle, and which turned out to be a hydrocele. The man had had for some time a swelling on the left side. He had often been tapped, and had been so treated immediately before I saw him. He had a large oval tumour, slightly irregular here and there. It occupied the whole of the left side of the scrotum. It was very solid and resisting. There was no normal testicle to be made out. When I had removed it I found, on section, that it was a hydrocele sac more than half an inch thick, filled with old blood clots. The epididymis was spread out over it like a thin membrane, and could be recognised only with difficulty, and the testicle was atrophied almost beyond recognition. His comfort was added to by the operation; yet there remains the fact that we did not recognise what was the real condition of things.

I will not occupy your time by giving details of any more cases; but I could tell you of patients who have been condemned by others as having malignant disease, and who are still alive years after the pronouncement; of scirrhus of the breast, many times, which has proved to be nothing worse than a chronic abscess or an adenoma; and of abdominal tumours which, on exploration, have been declared by the most experienced and wise surgeons to be cancerous, while the patients have belied the diagnosis by living for many years in comparative health.

In the few cases I have noted in this discursive way I have mentioned the most interesting—those from which some instruction may be gathered by others as it has been by me. As one grows older and gets beyond the trammels of the books, he realises one or two things very sharply—the fact that our diagnoses have reached a very high standard of accuracy, and the other fact that there is still a percentage of cases in which the symptoms are so confusing, that mistakes must be met with if we bind ourselves to a definite opinion. Still there are some which ought not to be made if examination is thoroughly carried out. And, therefore, the lesson which we should seek to teach in this matter is—thorough and painstaking searching-out of the meaning of signs and symptoms.

There are some cases which are so plain to the experienced surgeon that he can readily come to a decision. Probably he will be right in the majority of instances. But I have seen this facility grow into a dangerous habit. I have no respect for what I may call "snap-shot diagnosis." The first glance almost may be enough to settle the question at issue, but nevertheless the opinion then formed ought to be made as sure as possible by the careful and systematic examination of the patient. We should cultivate this habit ourselves, and we should teach our pupils how to acquire it and practise it.

Whoever has examined much at the bedside knows how often the candidate seems to want the most elementary knowledge of how to examine a patient; and personally I should estimate more highly the student who knows how to set about finding out the disease, although he might in the end be wrong, than of a diagnosis which chanced to be correct without sufficient justification for it.

I have to apologise to you for these most desultory words; but I hope that, although they may not present much that is new to many in this Section, they may have the effect of impressing upon others that we are not omnipotent or omniscient. There is no one who, if he has seen much work, can claim to be free from mistakes. They dog the steps of the best of us. He will do well who recognises this early and tries to learn the important truths they teach—that we must not rely upon any inspiration to help us to a diagnosis, but that it must be reached, if at all, by means which are open to everyone—the diligent seeking-out and the just weighing of facts.

ART. XIX.—*Successful Operation for a Case of Pulsating Tumour of the Temporal Region of Eighteen Years standing.*[a]

By Professor C. YELVERTON PEARSON, M.D., F.R.C.S.E.; Surgeon to the North Charitable Infirmary and City of Cork Hospital, &c.

CASE.—W. A M., male, aged forty-five, grocer, married, residing in Cork, admitted to North Charitable Infirmary, October 15th, 1694.

Family history.—Father died of liver disease, mother of paralysis; both at an advanced age. Patient has nine children—seven boys and two girls—all healthy. The eldest, a boy of eighteen years; the youngest, a boy of eighteen months.

Previous illness.—Had rheumatic fever when fourteen or fifteen years of age; also had scarlatina and measles. Otherwise healthy up to onset of present affection.

History of present affection.—About eighteen or nineteen years ago got a fall from a horse, and struck his head, but does not remember noticing any special injury at the time. A few months afterwards felt pain in left frontal and temporal region, which was at first of a dull character, but which gradually became more intense, and has continued ever since. Also complained of dizziness and a sensation of fulness in the head on stooping. Also noticed, at a somewhat later period, a swelling of the left temporal region, of a throbbing character, which has increased very gradually. In the course of about two years from the onset the pain, fulness, and dizziness became so great, on stooping forwards, that he was obliged to give up his business. He consulted several doctors, both in Ireland and England, and was treated chiefly by external applications, and advised to take plenty of fresh air. Only one medical man recommended an operation.

About three years ago he presented himself at the out-patient department of the North Infirmary, when he first came under my observation. I investigated his case very carefully at the time, and came to the conclusion that the swelling was of an aneurysmal character, most likely of traumatic origin, and, probably, associated with some intra-cranial mischief of a vascular nature. A consultation was held at the time with some of my colleagues, and it was not considered advisable to employ operative measures.

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[a] Read before the Surgical Section of the Royal Academy of Medicine in Ireland, Friday, January 10, 1896.

DR. PEARSON ON PULSATING TUMOUR.

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He was, accordingly, treated with iodide of potassium, bromides, and, subsequently, digitalis, with a slight degree of temporary relief of his most distressing symptoms, but no permanent benefit, and disappeared after a time.

He again presented himself in October, 1894, and described his condition as being so unbearable that he implored to be admitted for operative treatment.

His condition on admission was as follows:—Average height; fairly stout; dark complexion; head proportionately large; appearance healthy; fairly intelligent, and mentally sound; but in depressed spirits on account of his malady. Thoracic and abdominal viscera healthy, and all bodily functions satisfactorily performed; but did not sleep well, owing to pain and throbbing sensation in the head.

Symptoms.—Constant headache and dizziness; cannot stoop forward without feeling giddy, and is unable to look upwards or throw the head backwards without feeling great pain. The pain is chiefly located in the left frontal and anterior temporal region. There was total incapacity for physical or mental occupation.

Physical signs.—There is a uniform swelling of the left temporal region, with perfectly smooth surface, convex, bounded by the temporal ridge and zygoma. The superficial temporal artery, in a much dilated and tortuous condition, can be easily recognised on the surface, as seen in the accompanying photograph. The tumour is soft on palpation, but has distinct pulsation of an expansile character. This pulsation cannot be arrested or even perceptibly affected by digital compression of the temporal artery or simultaneous compression of the temporal against the zygoma and its branches of distribution above the seat of the swelling. On careful palpation an irregular fissure, about a quarter of an inch in its longest diameter, can be felt near the margin of the swelling, about one inch and a half above and behind the external angular process of the frontal bone, and, probably, situated in the coronal suture. Pulsation cannot be arrested by making firm pressure over this fissure, but is somewhat diminished by making pressure on the tumour itself. The pupils are equal, and respond normally to light. Ophthalmoscopic examination showed the existence of a choked disc and some optic neuritis on the left side, and increased vascularity of the right fundus.

Differential diagnosis.—The possible pulsating tumours of this region are—Hernia of the brain or its membranes; fungating tumour of the dura mater; pulsating tumour of the bones; malignant growths; and aneurysms. Malignant growths were excluded by the duration of the symptoms and the very gradual increase in size; hernia cerebri and meningocele by the absence of symptoms on pressure, and the very small extent of the fissure in the cranial wall; fungus of the dura mater by the slow progress, the well-defined boundaries of the swelling, and the firmness of the bones beneath; hence the conclusion that the tumour was of an aneurysmal character. The question, however, arose as to the precise nature of the aneurysm. Owing to the smooth surface and anatomically defined margin of the tumour, the absence of diminution in pulsation and size on compressing the temporal and its anastomotic connections, and the existence of intra-cranial symptoms, I formed the opinion that, in all probability, the tumour was a false aneurysm circumscribed by the temporal fascia and muscle with intra-cranial vascular connections, and therefore, probably supplied by the middle meningeal or deep temporal arteries, or by both.

Owing to the sufferings of the patient, his inability for work, and his own personal solicitations, an operation was determined upon, and was accordingly performed as follows:—The superficial temporal artery was exposed by a small incision immediately above the zygoma, and ligatured. A curved incision was made along the line of the temporal ridge, commencing a little in front of the coronal suture, and terminating below and behind at the posterior root of the zygoma. The integuments were reflected downwards and forwards and the temporal fascia was laid bare. The temporal fascia was then carefully divided over the centre of the tumour and reflected, when a highly vascular and convoluted mass was disclosed, bearing considerable resemblance to the living brain and its membranes when the dura mater is removed. On close inspection this mass was found to consist of very large and tortuous thin-walled vessels, which freely anastomosed. An attempt was made to ligature the larger vessels at the circumference, but, after a few trials, this was found to be unsatisfactory, as the walls of the vessels were so thin that they would not bear the pressure of a ligature or forceps, and the hæmorrhage was exceedingly copious. I then determined, with the consent of Professor O'Sullivan, who rendered me valuable assistance throughout the operation, to attempt its removal with the Paquelin's cautery knife. This I proceeded to do from behind forwards, keeping close to the bone. Very little trace of the temporal muscle was recognisable, its place being occupied by blood-vessels. Numerous small vessels were encountered issuing from apertures in the bones. On reaching the fissure previously referred to the hæmorrhage that took place was truly appalling, and could not be completely controlled by direct pressure combined with pressure on the carotid. One very large and several smaller anastomosing vessels issued through the aperture, which was situated in the coronal suture, about ¾-inch above the anterior-inferior angle of the parietal bone. The hæmorrhage was, however, successfully arrested by inserting a cautery in the fissure at a dull-red heat, and maintaining it in that condition for some minutes. The tumour having been removed, and all hæmorrhage having been checked by application of the cautery at all the necessary points, the integuments were replaced and sutured, except where drainage tubes were inserted at the posterior and lower portions of the wound. Careful graduated pressure was applied, especially over the region of the fissure.

My original intention, if found feasible, was to trephine the skull after dealing with the intra-cranial tumour, but, owing to the conditions I have described, I think you will agree with me that such a proceeding would have been rash and unjustifiable.

The progress of the case subsequent to operation was very satisfactory. There was no secondary hæmorrhage, of which I had considerable fear. The scalp wound united by first intention, except at the seat of the drainage tubes, through which some suppurative discharge took place for a fortnight—no doubt owing to the free use of the cautery.

The patient experienced very great relief from his symptoms very soon after the operation, and slept remarkably well. He left the hospital November 24th, feeling wonderfully well, and with the intention of again engaging in business of some kind.

The points which I consider specially worthy of debate in this case are the following :—

1. The probable origin of the tumour.

2. Was it possible to diagnosticate the precise nature of the aneurysm previously to operation?—the cirsoid condition of the superficial temporal being suggestive of aneurysm by anastomosis.

3. Was an operation advisable or justifiable?

4. What was the probable intra-cranial condition? I believe it to have been an aneurysm by anastomosis of the meningeal blood-vessels.

5. I may point out that the bones themselves were perfectly healthy, and, therefore, the case was not of the nature of a pulsating bone tumour.

Since reading the above paper at the Academy I saw the patient. He said he was perfectly well, and was looking out for occupation. He was perfectly free from head symptoms. Hence, I think I am justified in concluding that there was no intra-cranial aneurysm, and that the head symptoms were due to the dilated condition of the middle meningeal itself.

ART. XX.—*The Discovery of Modern Anæsthetics.* By GEORGE M. FOY, F.R.C.S., Surgeon, Whitworth Hospital, Drumcondra; Hon. Fellow of the Southern Surgical and Gynæcological Association, U.S.A.

THE genesis of modern anæsthetics is found in Priestley's Discovery of Oxygen. All attempts to produce anæsthesia prior to that brilliant discovery were unsatisfactory. With the introduction of "factitious airs," there arose a hope in the minds of certain members of the medical profession that in pneumatic medicine there was to be found a remedy for the greater number of diseases. Of those who held this view the most enthusiastic and one of the ablest was Dr. Thomas Beddoes. No man of that day was better fitted for the task than Beddoes, whom Humphry Davy, in 1798, described as "one of the most original men I ever saw . . . extremely silent, and, in a few words, a very bad companion."

Beddoes was fully abreast of the medical and chemical knowledge of his day. Whilst yet a medical student he translated Spallanzani's "Dissertations on Natural History," Bergmann's "Essays on Elective Attractions," and Gimbernaut's surgical monograph on "Hernia." From being the pupil he became the friend of Cullen, Black, and Lavoisier. He qualified as a Doctor of Medicine in 1786, and soon afterwards translated Scheele's "Chemical Essays," and in 1790 published "Chemical Experiments and Opinions," in which he endeavoured to obtain justice for the views and discoveries of Dr. Mayow in pneumatic chemistry; and to fully realise Black's objection to Sthal's theory of phlogiston he learned German. In 1792 he voluntarily resigned the position of reader of Chemistry in Oxford, of which he had been six years in possession, his Republican ideas having given offence to the university authorities. His success at Oxford as a lecturer was unparalleled. "The time of his residence there," says one of his pupils, "was a brilliant one in the annals of the university, and produced a taste for scientific researches that bordered upon enthusiasm."

The Hotwells Hospital was founded soon after his resignation at Clifton, Bristol, by the aid of a few friends, and made such rapid progress in public favour that Dr. Beddoes soon required an assistant to superintend his laboratory. This led, in 1798, to the appointment of Davy, whose introduction was brought about in the following fashion:—Associated with Dr. Beddoes in the hospital was Mr. James Watt, the Engineer, whose son, Mr. Gregory Watt, took a great interest in pneumatic medicine, and was a frequent visitor to the hospital, as were the Wedgewoods, Southey, Coleridge, Wordsworth, Priestley, son of the discoverer of nitrous oxide, Tobin the dramatist, for whose five-act comedy Davy found time to write the prologue, and the Edgeworths. Mr. Gregory Watt was of a weakly, consumptive habit, and in 1797 he was ordered to winter in Penzance where he lodged with Mrs. Davy, a widow, boarding with the family. He met Humphry Davy, two years his junior, at the family table, and was pleased with the enthusiasm and diligence of the apprentice of Mr. Bingham Borlase, Apothecary and Surgeon, who had already mastered Lavoisier's "Elements of Chemistry."

Mr. Gregory Watt, finding benefit from the air of Penzance, and liking the Davy family, remained with them until the following summer. On his return to Clifton he suggested the engagement of Mr. Humphry Davy to Dr. Beddoes, and his recommendation was warmly supported by Mr. Gilbert, of Penzance, who had more than a local reputation as a chemist.

Mr. Humphry Davy was released from his apprenticeship by Mr. Borlase, who wrote on the back of his indenture that he released him from "all engagements whatever on account of his excellent behaviour," adding "because being a youth of great promise, I would not obstruct his present pursuits which are likely to promote his fortune and his fame."

He describes his journey to Bristol as "uncommonly pleasant . . . Came into Exeter in a most joyful time—the celebration of Nelson's victory. The town was beautifully illuminated."

During the years immediately prior to Davy's arrival research had been pushed forward diligently at Hotwells.

On referring to Dr. Beddoes' book—"Considerations on the Medicinal Use, and on the Production of Factitious Airs"—we find that he had been experimenting on the lower animals with factitious airs from 1793, and that in 1794 he was freely using the different gases as therapeutic remedies as were Drs. Carmichael, Darwin, Ewart, Ferrier, Gamet, Johnstone, Pearson, Thornton, Trotter, and Withering.

An experiment to determine the physiological effect of oxygen was performed early in 1793, and is attested by Messrs. Machell, Edgeworth, Guillemard, Sadler, and Beddoes. A large number of cases is given of the good effects of the inhalation of oxygen gas in different parts of the country, and this method of treatment became popular. Almost every volatile substance came to be tried, and amongst others ether. Cullen in his lectures, which Beddoes attended, recommended the vapour of ether as a local anæsthetic. The 1772 edition of his lectures gives full particulars for the use of the anæsthetic, and enumerates the class of cases in which he found it useful. Throughout Scotland ether came to be used by inhalation. Morris, of Edinburgh, writing in 1807, declares that—"In catarrhal and asthmatic complaints its vapour is inhaled with advantage." In England it was looked on with suspicion, for whilst Cullen was recommending it in Edinburgh, Lewis, of London (1768), writes—"It has hitherto been regarded chiefly as a matter of curiosity, nor are its medicinal qualities as yet much known"—a prejudice which Beddoes did much to overcome.

Dr. Pearson, writing to Beddoes from Birmingham on the 2nd of February, 1795, says—"In my little publication I can scarcely call anything my own, but the observations on the *vapour of ether*, of the probable use of which . . . your considerations on factitious airs first gave me the idea."

In "Practical Synopsis" he writes:—"The vapour of vitriolic ether, whether pure or impregnated with cicuta, drawn into the lungs three or four times a day, has

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SIR HUMPHRY DAVY, Bart.

SIR HUMPHRY DAVY, Bart.

been found serviceable in cases of catarrh, phthisis pulmonalis, whooping cough, and croup. At each inhalation two or three teaspoonfuls of ether are used," and he refers the reader to Beddoes' writings.

And in a pamphlet published in 1795:—"Under proper management, the application of modified airs to the lungs is perfectly safe and easy. The mixed airs are breathed out of bags, and no trouble or exertion is required on the part of the patient. That some of them possess very powerful and active properties is no objection to their use, for the same may be said of opium, and certain preparations of antimony and mercury, which are daily prescribed, and which only do mischief in the hands of unqualified persons. These airs, like all other medicines, may be overdosed, but practitioners who are acquainted with their effects, will take care that they are not too freely or too frequently applied. With such precautions, they may be pronounced to be as safe as most other medicines." He then adds:—"In consequence of the success which has already attended the medicinal application of factitious airs at Bristol and other places, a proposal has been made for the establishment of a Public Pneumatic Institution in London, for which subscriptions are now opened in this (Birmingham) and several other towns. Apparatus for obtaining the different kinds of airs have been introduced into the hospital and dispensary here (Birmingham), and in process of time, when the preparation and uses of these elastic fluids come to be generally understood, we may expect that these apparatus will be found in the laboratories of most of the apothecaries. Physicians will then have opportunities of prescribing the pneumatic treatment in all cases in which they may judge it to be proper."

From the above we see that the pneumatic treatment was known and practised years before Dr. Beddoes knew of Mr. H. Davy's existence, and that almost all gases and volatile substances were being experimented with is abundantly clear from the medical records of the time.

Nor was Beddoes indifferent to the question of anæsthesia; he recognised that carbonic oxide gas stopped the pain of a blistered finger. He thus describes the experiment:—"The celebrated Dr. Inganhouse, in a letter dated August 4th, 1794, mentions to me a curious experiment 'which,' says he, 'if it be a real fact, throws a great deal of light upon your system; it is this:—Blister your finger so as to lay bare the naked and sensible skin, the contact of air will produce pain; put your finger into vital air, and that will give more pain; introduce it into fixed or azotic air, and the pain will diminish or cease.' Dr. Webster, he adds, was informed of these circumstances by a Frenchman whose name does not appear. I had often heard them indistinctly related, and it is rather surprising that the fact had not been ascertained. Much of the art of modern surgery consists in keeping the air from wounds and some kinds of ulcers, and this last fact, if the account be true, pretty decisively shows which ingredient of the atmosphere is injurious.

"I applied a blister an inch long and half an inch broad to the back of the third finger of the left hand. When the pain from the action of the cantharides entirely ceased, I cut away the scarf skin of the vesication, and was sensible, the moment the air was admitted, of a sharp, smarting pain. This did not continue so severe, but the exposed true skin sensibly smarted. Upon tying the neck of a bladder containing carbonic acid air from heated chalk round the root of the finger, the pain very soon subsided. While I kept my finger in carbonic acid air, which was near half an hour, I should not have known it received any injury."

And he adds:—"I have lately seen cancerous patients treated by the application of unrespirable air, with the most astonishing success. In mentioning to Dr. Black the introduction of factitious airs into the Bath hospital, as a source of hope, I did not so soon expect an event which ages and nations have desired in vain."

We now come to the employment of Davy and his first introduction to nitrous oxide gas experiments.

Contemporary with Beddoes was one Mitchell, a chemist, who published a Text-book on Chemistry in 1798, in which he asserted that nitrous oxide gas was a virulent poison, the probability being that his experiments were made with an impure sample; as he followed the earlier method of Priestley in its manufacture—exposing nitric oxide gas to the action of iron. Mitchell's statement greatly puzzled Beddoes, who had used oxygen gas and nitrogen gas, separately and mixed, without unpleasant results, and had the result of Mr. James Watt's experiments with nitrous oxide, which corresponded with his own. Watt, on the 7th of October, 1794, writes of the inhalation of the gas—"I had a slight though uncommon nausea, attended with some elevation of spirit all that evening, but no heat or thirst." With a suitable apparatus devised by Mr. James Watt, Beddoes decided to repeat Mitchell's experiments, and one of the first duties of Mr. Humphry Davy was the preparation of nitrous oxide gas. In a letter from Davy to Mr. Gilbert, dated April 10th, 1799, he writes—"The gaseous oxide of azote is perfectly respirable. . . I breathed to-day, in the presence of Dr. Beddoes and some others, sixteen quarts of it for near seven minutes," and he adds, "We have upwards of eighty out-patients in the Pneumatic Institution, and are going on wonderfully well."

Dr. Beddoes gave the result of the experiments to the world in Nicholson's Journal, and the institution became more than ever popular. "Laughing gas" became fashionable. Davy calculated that an exhilarating dose of the gas could be supplied for 2d., and it came to be so generally used as to be described as a national vice, and was the subject of a cartoon by Gillray. In all stages of depression or pain, the gas was resorted to as a remedy. Beddoes found it efficacious in arresting the pain of toothache. Davy took it to get poetic inspiration, and, finally, to cure the pain of a cutting wisdom-tooth, and finding it stopped the pain declared that—"As nitrous oxide in its extensive operation appears capable of destroying physical pain, it may probably be used with advantage during surgical operations in which no great effusion of blood takes place."

Davy's first experiment with nitrous oxide gas was made on the 9th of April, 1799, five years after its discoverer, Priestley, had sailed for America.

The inhalation of the gas quickly became a pastime in the Hotwells Hospital. Maria Edgeworth, who was on a visit with her sister, Anna, Mrs. Beddoes, writes:—"A young man, a Mr. Davy, at Dr. Beddoes', who has applied himself much to chemistry, has made some discoveries of importance, and enthusiastically expects wonders will be performed by the use of certain gases, which inebriate in the most delightful manner, having the oblivious effects of Lethe and, at the same time, giving the rapturous sensation of the Nectar of the Gods! Pleasure even to madness is the consequence of this draught."

Davy's knowledge of chemistry when he came to Beddoes may fairly be estimated by his two essays in "Contributions to Physical and Medical Knowledge," published in 1799. Of them Dr. Thorpe writes: "Now-a-days such writings would hopelessly damn the reputation of any young aspirant for scientific fame, for it is indeed difficult to believe, as we read paragraph after paragraph, that their author had any real conception of science, or that he was capable of understanding the need or appreciating the value of scientific evidence."

The opportunities for study in the Hotwells Hospital were not lost on Davy, and his later papers to the journal of "Physical and Medical Knowledge" are very different to his first crude contributions of 1799.

Fortunate in having voiced the views of Beddoes and his fellow-workers on the anæsthetic properties of nitrous oxide, Davy to-day receives the credit of having discovered them, and to the general public the name of Thomas Beddoes, the real discoverer, is practically unknown. Beddoes, the chemist, physician, philanthropist, is almost forgotten, although it was in his laboratory and in his hospital that modern anæsthetics were born.

The engagement of Mr. Davy left Dr. Beddoes more time for the study of consumption, the cure or prevention of which was the labour of his life. Thus he writes in "Hygeia:"—"Should it be asked, in what manner is the existence of every person born and continuing to reside in the British islands most likely to terminate, the following table will supply the answer."

He then gives the years' bills of mortality, that for 1799 show that of 23,068 deaths, 5,721 were from consumption, 2,712 from fevers, and 2,400 from smallpox. Thus when Beddoes was engaged in the all-important study of the therapeutics of consumption, Mr. H. Davy, in testing the accuracy of Mitchell's experiments, had forced on him the knowledge of the anæsthetic properties of nitrous oxide, and in a happy moment published the fact.

Mr. Humphry Davy's later papers on chemistry attracted the notice of Mr. B. Thompson, better known by his German title, Count Rumford, who offered him the post of Assistant Professor of Chemistry in the Royal Institution, London, of which he was the founder. Davy was liberated from his engagement by Beddoes, and accepted the appointment, in succession to Mr. Thomas Garnett.

In the first year of the century, 1801, Mr. Davy commenced those brilliant lectures on which his great reputation rests; but from 1801 anæsthetics found no place in his studies.

The inhalation of nitrous oxide gas came to be a pastime with the fashionable and idle loungers about town; and its production after a time was discontinued by Beddoes, who, failing in health and disappointed in not realising his hopes in pneumatic medicine, died broken-hearted in 1808, in the forty-eighth year of his age. Writing to Davy from his death-bed he describes himself as "one who has scattered abroad the *avena fatua* of knowledge, from which neither branch, nor blossom, nor fruit has resulted."

But his talents were not altogether unrecognised. An obituary notice in the *Edinburgh Medical and Surgical Journal* thus concludes:—"The reputation of Dr. Beddoes as a physician has not yet attained so high a rank as it deserves. There is an ardour of talent, an animating earnestness, a stimulant exaggeration in his writings, well adapted to rouse the torpor and provoke the attention of medical readers. He had the mind of a poet and a painter, and displayed the power of his imagination in vivid representations of facts and theories. He was a pioneer in the road to discovery."

"I feel," wrote Coleridge on hearing of his death, "that more had been taken out of my life by this than by any former event."

"From Beddoes," wrote Southey on the same occasion, "I hoped for more good to the human race than any other individual."

In America, as in England, the inhalation of the gas became a popular amusement, and the name "laughing gas" tells that, for a time at least, the medicinal properties of the oxide were forgotten. How common the exhibition of laughing gas became is shown by Dr. Oliver P. Hubbard's paper, read before the New York State Medical Association on the 9th of October, 1888, to wit:—

"About sixty-seven years ago Dr. Stockman, a German druggist of Utica. came to Rome, Oneida county, to exhibit the well-known effects of its inhalation to a large number of people, on the evenings of November 5, 6, and 7, 1821, in the hotel and county courthouse. On the first evening occurred an incident still fresh in my memory, which I have frequently cited to my classes. I have sought in vain to discover a record of a case of an earlier date. I have always intended to publish this case, and during these years, to fortify my own impressions, I have procured from living witnesses written confirmation of all my recollections.

"My elder brother, William G. Hubbard, then sixteen years old, was present at Dr. Stockman's exhibition, and was one of those who took the gas. On the 14th of October, 1852, I wrote to him at Elgin, Ill., sending a copy of entries made at the time in my school journal, and adding, in substance, 'Now I will relate from memory. On the first evening, when the exhibition was closed (the doctor saying there was no more gas), and while many were standing around the fire talking over the occurrences, the doctor went into the dressingroom on the north, and found a young man lying on the floor close by the gasometer, entirely senseless.

"'He had gone in stealthily, turned the stop-cock, and taken his fill, and here was the legitimate result—a case of complete anæsthesia, probably the first by this means ever authenticated.

"'The alarm was great. Death seemed imminent, if not present. He was lifted with difficulty by two persons, one under each arm, and brought into the large ball-room; and, after long and anxious suspense, he came to his natural state unharmed. How long he had been under the influence of the gas could not be known, for "the sweet was stolen." Can you recall this singular incident and those connected with it?'

"On the 22nd he replies:—

"'I well remember old Dr. Stockman's performances at Rome. Your recollections, as far as you express them, agree almost exactly with my own. I do not know the name of the person; but that, I suppose, is not material. He was found as you mention, lying insensible with his mouth applied to the faucet. No means were applied to restore him to consciousness. He was brought ont into the ball-room, and a crowd immediately gathered around, watching the case.

"'After a few minutes his feet began to move slightly, with a gradually increasing motion to a very rapid one, evidently making an effort to dance. He was thus held up by the arms, with his feet flying like drumsticks, and gradually recovering the use of his limbs until he could dance alone.

"'He danced in this way until the effect of the gas had subsided, and then appeared entirely exhausted. No injurious or unpleasant effect was noticed, and after resting a while he appeared as usual.'

"In November, 1883, I addressed a similar letter to an early friend and schoolmate, Mr. William E. Wright, all his life a resident of Rome, to which he replied as follows:—

"'In answer to your inquiries, I would say that I remember the incidents as to the lecture of Dr. Stockman at the hotel ball-room, not from personal presence, but from my father, who was there, of an attack made upon him by Ephraim Smith when under the influence of the gas, who chased him from the ball-room into and through adjoining rooms until he came to himself again. I also remember the case of the person who became overcharged at the gasometer. I remember the lecture at the court-house from personal presence, and witnessed the agility of one man (M'Donnell), who, under the influence of the gas, immediately started on a run upon the top rails of the right hand tier of rising slips up through the people therein, causing great excitement and fear by the people, who seized and held him by force until he came out of the gas influence. Finding himself so held he was extremely mortified at his act and condition.'

"In August, 1887, wishing to confirm as far as possible the above recitals, I obtained from my cousin, Rev. Charles

P. Grosvenor (Yale, 1827), of Pomfret, Conn., his recollections of these events, which occurred when, a boy of sixteen, he was at school in Rome. They coincide with the preceding; and he adds, 'When thus held up and reviving, the young man would throw his feet as high as his head.'"

Fortunately for medicine, the discovery of modern anæsthetics fell to the lot of gifted scientists.

The first manifestations of the anæsthetic properties of nitrous oxide were noted by Davy, Beddocs, Priestley, son of the discoverer of the gas, and Watt.

Davy thus recorded the effects:—"Having previously closed my nostrils and exhausted my lungs, I breathed four quarts of nitrous oxide from and in to a silk bag. The first feelings were similar to those produced in the last experiment; but in less than half a minute, the respiration being continued, they diminished gradually and were succeeded by a sensation analogous to gentle pressure on all the muscles, attended by a highly pleasurable thrilling, particularly in the chest and extremities. The objects around me became dazzling, and my hearing more acute. Towards the last inspiration the thrilling increased, the sense of muscular power became greater, and at last an irresistible propensity to action was indulged in; I recollect but indistinctly what followed; I know that my motions were various and violent. These effects very soon ceased after respiration. In ten minutes I had recovered my natural state of mind. The thrilling in the extremities continued longer than the other sensations. This experiment was made in the morning; no languor or exhaustion was consequent; my feelings throughout the day were as usual, and I passed the night in undisturbed repose."

The importance of the discovery of a general anæsthetic agent was not recognised; neither Dr. Davy nor Dr. Paris mention it prominently in their biographies of Sir Humphry Davy, and when the knighthood was conferred on him in 1812 no reference is made to the part he played in the discovery of anæsthetics.

Priestley, in America, gave himself up to theological studies, and Watt attained so much distinction as the inventor of the steam-engine that few remember the part he played in

THE HOTWELLS' HOSPITAL APPARATUS FOI

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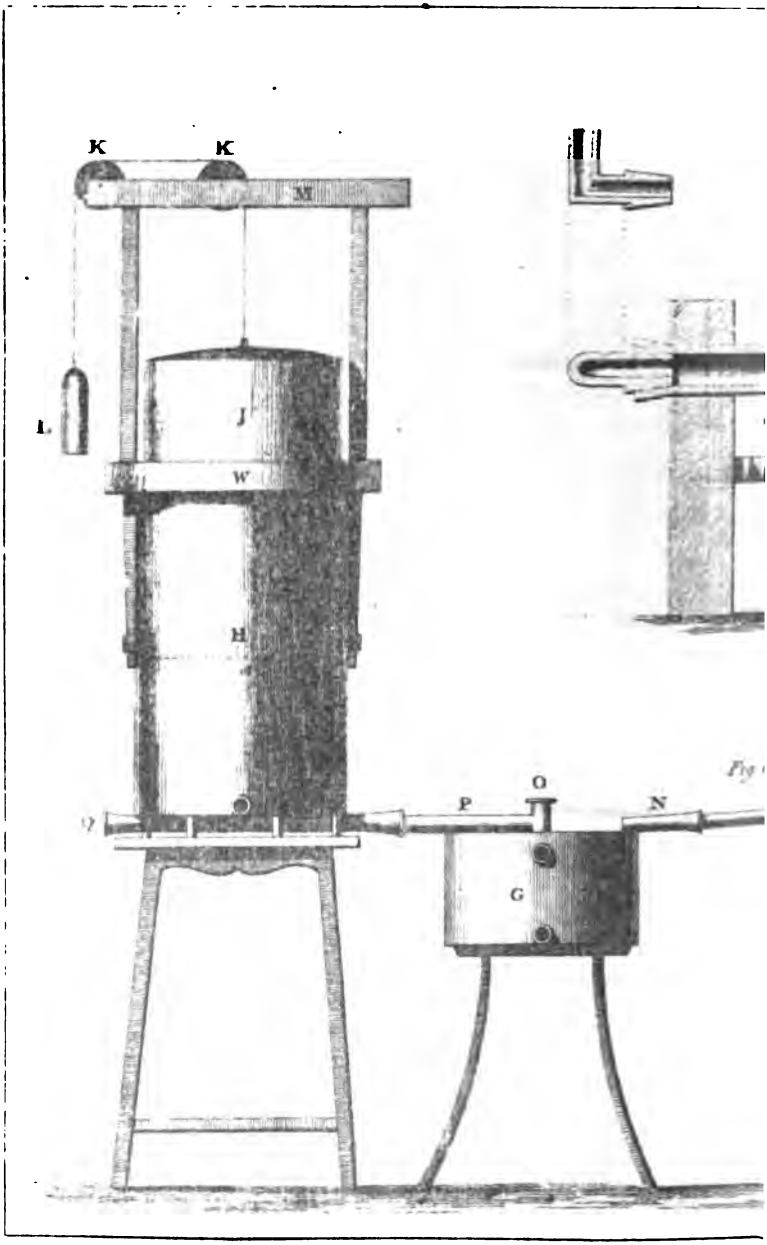

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Fig. 2.—Bird's Eye View of the Furn
Fig. 3.—Section of the Fire-tube and

THE PRODUCTION OF "FACTITIOUS AIRS."

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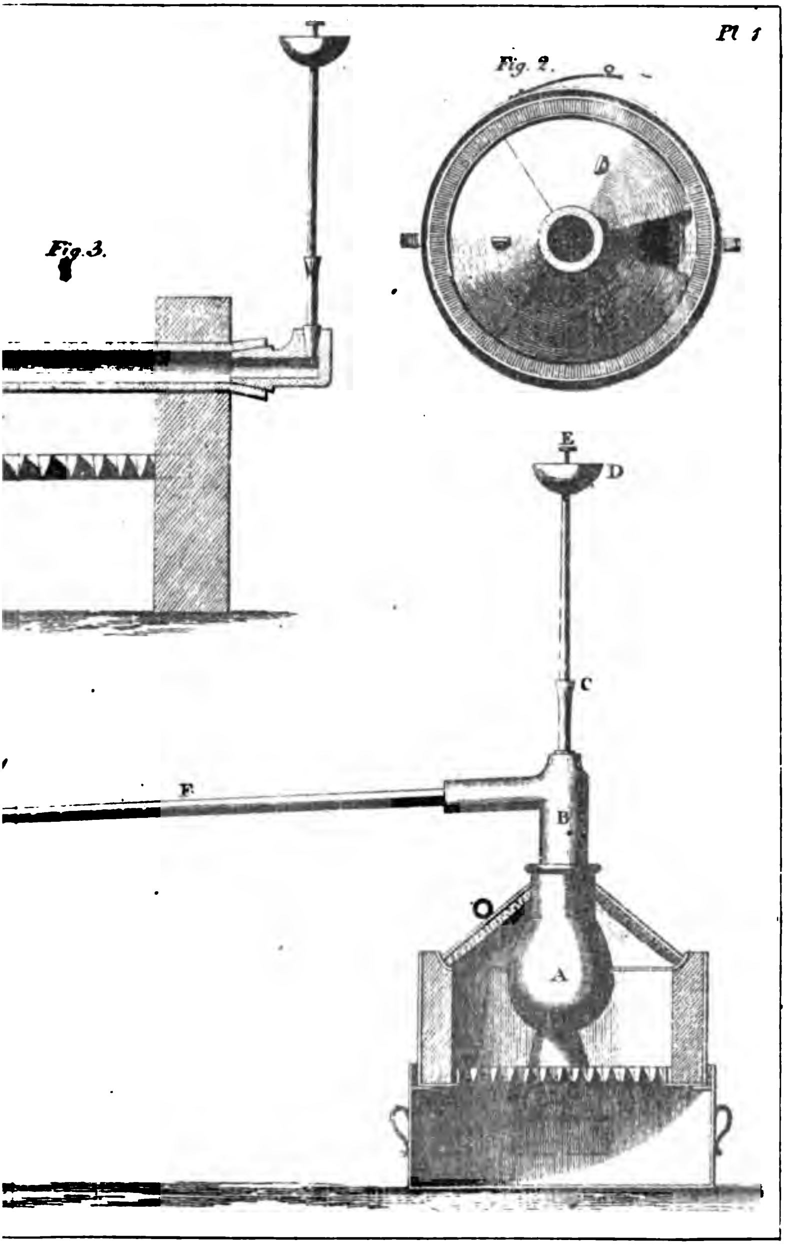

matic Apparatus, with the Alembic.
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THE HOTWELLS HOSPITAL APPARATUS FO

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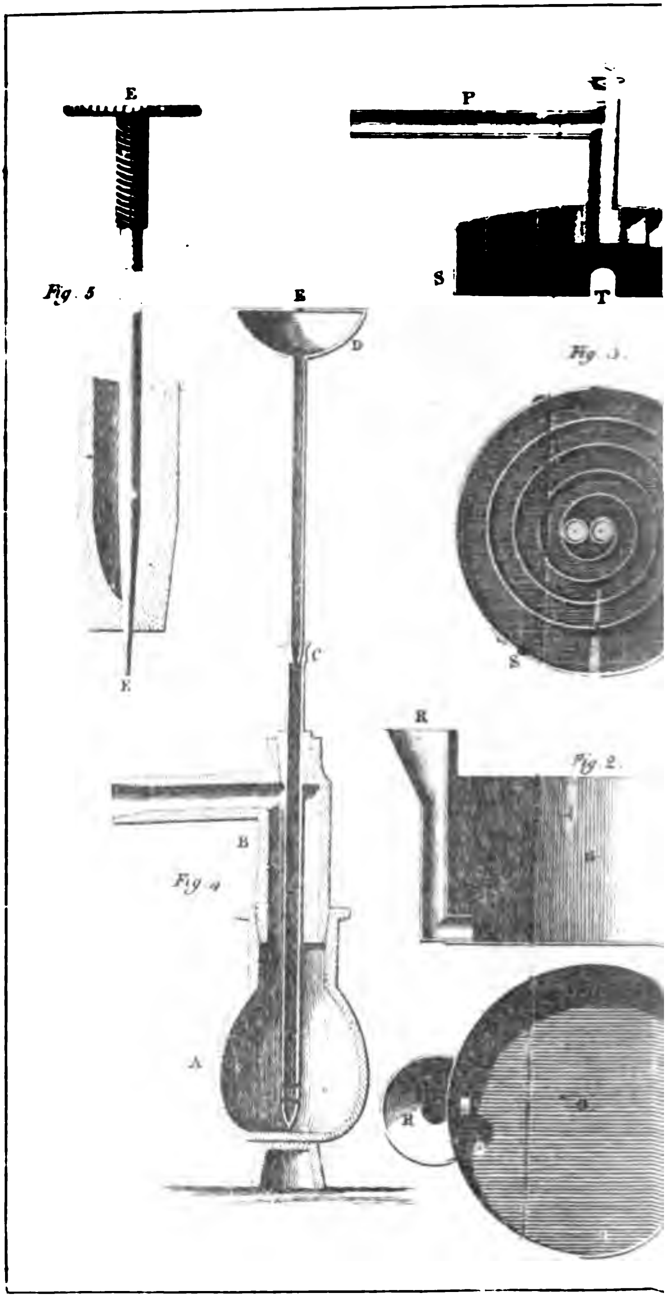

Fig. 1.—Section of the inner and outer Ve
Fig. 2.—Section of the outer Vessel of the
Fig. 3.—Section and Plan of the inner Ve
Fig. 4.—Section of the Alembic and Water
Fig. 5.—Section or the upper Part of the

THE PRODUCTION OF "FACTITIOUS AIRS."

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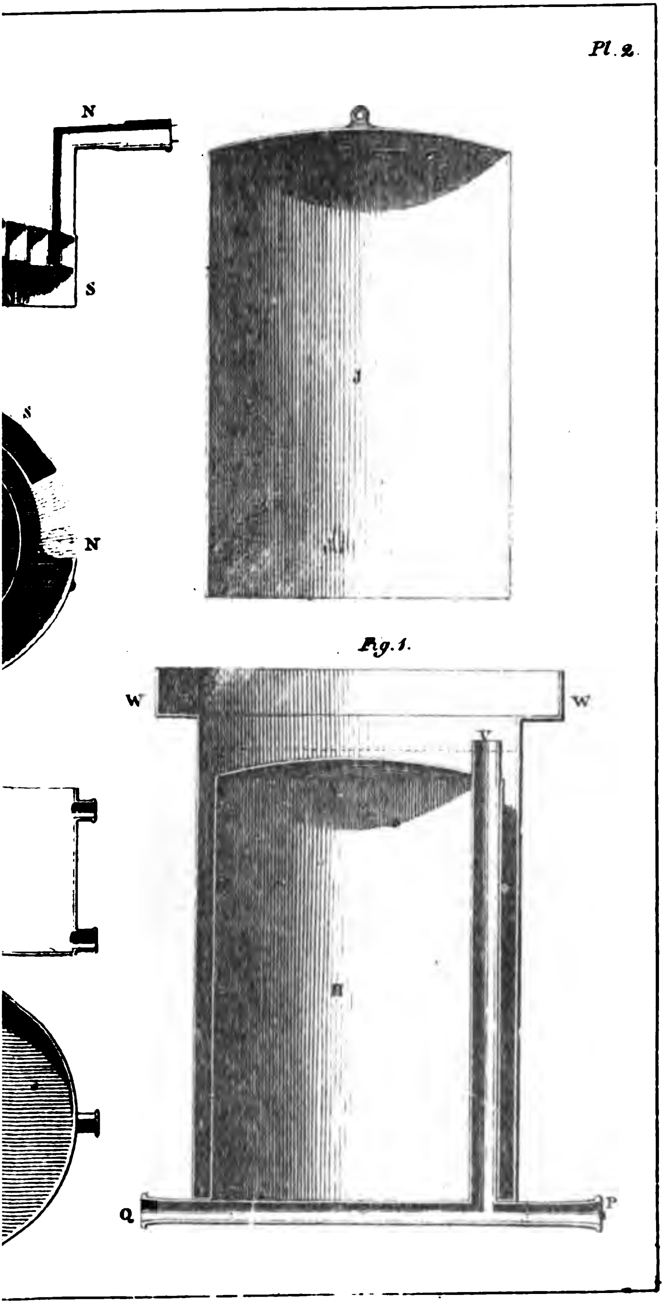

Fig. 1.

ssels of the Hydraulic Bellows.
Circulating Refrigeratory.
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THE HOTWELLS' HOSPITAL APPARATUS FO

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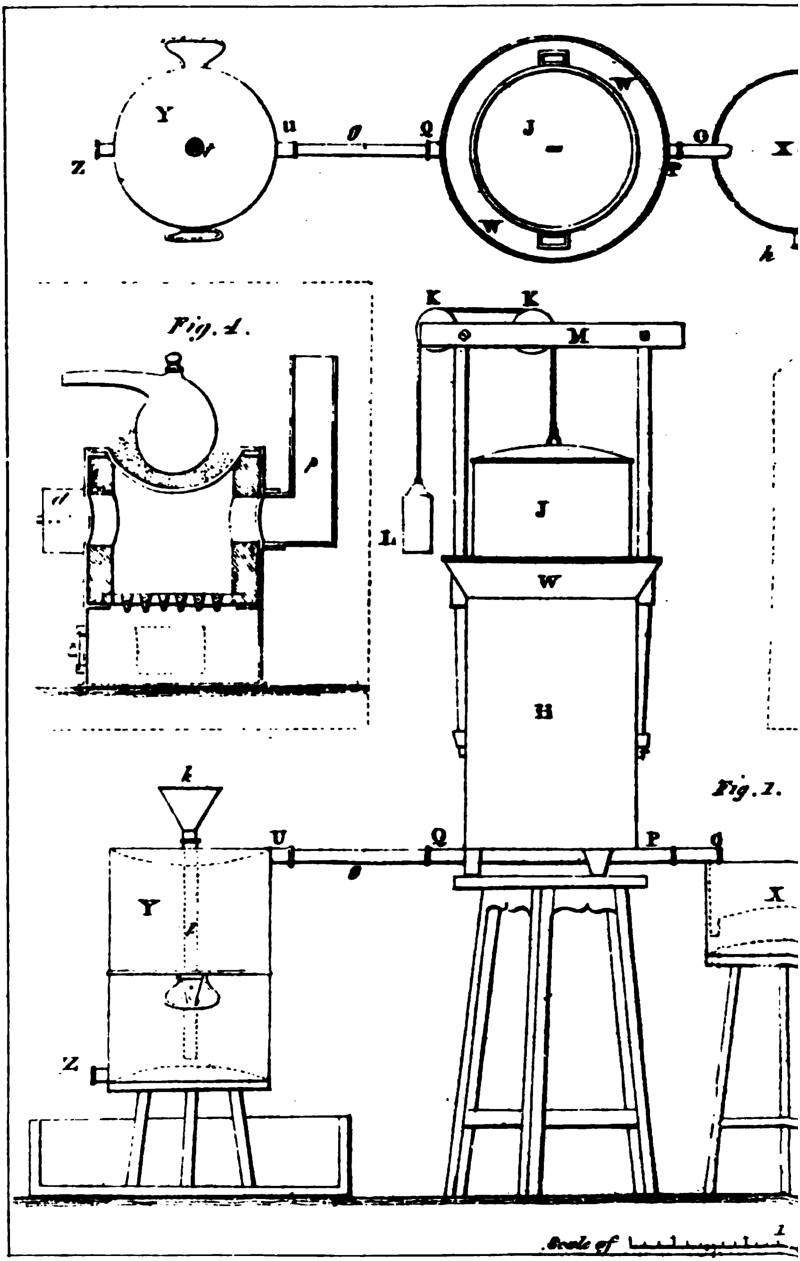
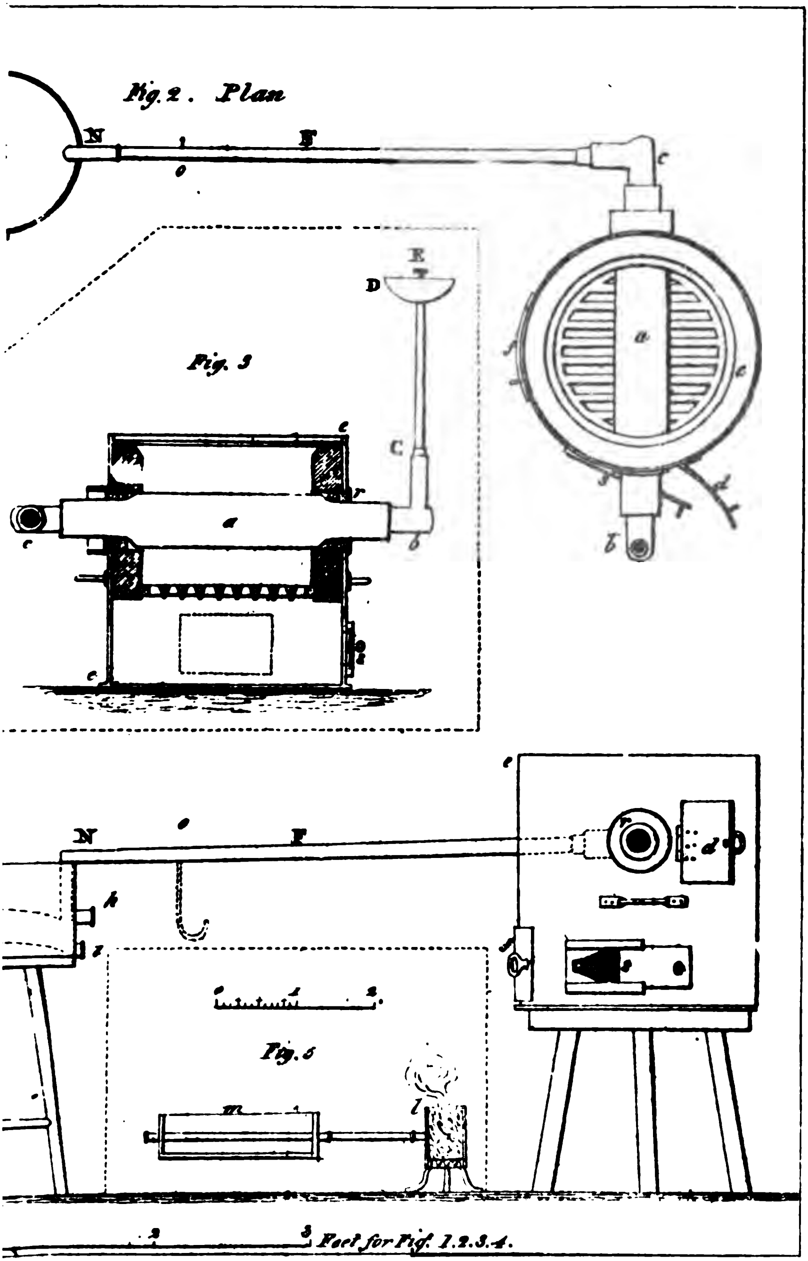


Fig. 1.—Elevation of the Large Pneumatic Apparatus, with the im
Fig. 2.—Plan of ditto. Fig. 3, Section of the Furnace and Fire-tu
Fig. 4.—Section of the Small Furnace, with Sand Bath, Retort, and
Fig. 5.—Section of the Pipe Refrigeratory.

THE PRODUCTION OF "FACTITIOUS AIRS."

E III.



ıproved Furnace Fire-tube, Close Refrigeratory, and Air-holder.
ube.
Chimney adapted for Distilling.

the birth of anæsthetics, and neither Cavendish, in England, nor Berthollet, in France, paid any attention to the great discovery; they were engaged in the study of chemistry for its own sake; withal, it is strange that Berthollet, as physician to the Duke of Orleans, did not, during his exhaustive studies of the gaseous elementary bodies, give some thought to the anæsthetic properties of nitrous oxide. Even Antoine Fourcroy, who with Vauquelin devoted so much study to the physical properties of the gas, and to the study of the chemistry of ether, gave no thought to the known anæsthetic properties of these substances. After 1803, however, Fourcroy's time was occupied with his administrative duties as Minister of Education under the First Consul. So completely had the remembrance of the anæsthesia of nitrous oxide passed from memory that forty years after its property of preventing pain during surgical operations had been demonstrated in the Hotwells Hospital, Velpeau, of Paris, described the attempts to find such an agent chimerical.

From the re-introduction of the gas as an anæsthetic, Gardiner Quincy Colton plays such an important part that a short biographical sketch of his career will not be amiss.

Gardiner Q. Colton was born in the village of Georgia, State of Vermont, on the 7th of February, 1814. He was the twelfth child of Walter Colton, one of the pioneer settlers of the State; he received a common school education, and at the age of sixteen learned the trade of chair-making, which he followed at Saint Albans until 1835, when he went to New York, worked at his trade, and wrote for the press. In 1842 he studied medicine with Dr. William Parker, and attended the medical classes of the College of Physicians and Surgeons. In 1844 he began the delivery of philosophical and chemical lectures, giving exhibitions of electrical phenomena, and of the effects of nitrous oxide or "laughing gas," and in his peregrinations, reached Hartford, Connecticut, where he delivered the celebrated lecture which Horace Wells turned to such account for humanity.

Leaving Wells to the study of the anæsthetic, Colton continued his tour, giving, however, most of his attention to electricity, and in 1847, when lecturing in Pittsburg, he demonstrated its value as a motor power by producing an electro-motor car. Two years afterwards he joined the army of emigrants for California, at the instigation of his brother Walter, who was successively Professor of Moral Philosophy and Belles-Lettrès at Middleton, Connecticut, editor of a newspaper, chaplain in the U.S. Navy, Californian pioneer, Alcade of Montery, and is credited with having built the first school, established the first newspaper, and of having made the first public announcement of the discovery of gold, which he did in a letter to the *North American.*

Neither as a miner nor as a physician was Gardiner Quincy Colton a success in California, and he left the State in 1850 for the New England States, where he resumed his lecturing tours until the outbreak of the civil war in 1860, when he published a series of war-maps.

In 1863 he founded the "Colton Dental Association," having establishments in New York and several of the larger cities of the Union. The Dental Association was a success, and Colton turned his thoughts to the Old World, where the use of nitrous oxide gas had not "caught on."

In 1867 he arrived in Paris, where, through the influence of an American dentist, Evans, the gas was brought under the notice of French surgeons and dentists.

Although Gardiner Q. Colton visited France I can find no mention of his having visited England. Dr. Evans brought his nitrous oxide apparatus to England, with which the anæsthetic property of the gas was demonstrated at the Dental Hospital, London, on the 31st of March, 1868.

Horace Wells, to whom we are indebted for the reintroduction of the gas as an anæsthetic, was a native of Hartford, Windsor County, State of Vermont. He studied dentistry in Boston, and at the age of twenty-one (1836) commenced the practice of his profession in Hartford, Connecticut. His mind was early turned to the subject of preventing pain in the extraction of teeth. In August, 1840, Dr. L. P. Brockett, of Brooklyn, New York, then a medical student, went to Wells to have a molar tooth extracted; the operation was difficult, and so painful that Wells said there ought to be some method of mitigating such suffering, and he thought a man might be made so drunk by the inhalation of nitrous oxide gas as to prevent the pain of dental and other operations.

On the 10th of December, 1844, Mr. Gardiner Q. Colton delivered a lecture on "laughing gas" in Hartford, Conn., and after he administered the gas to Wells and several other gentlemen, one of them, a Mr. Cooley, while under its influence, fell over some benches, and was evidently badly injured; when he returned to consciousness Wells rushed to him and inquired if he were hurt. He replied, "No." Wells then said, "You must have been hurt, for you struck your legs against the benches." The young man then, at Wells' suggestion, pulled up his trousers; the blood was running down his legs, and his knees were badly injured. When again questioned by Wells, he said, "I did not feel any pain at the time." Wells then turned to a friend, Mr. David Clarke, who was near by, and an eye-witness to all this, and remarked, "I believe a man by taking that gas could have a tooth extracted or a limb amputated without feeling the pain." So thoroughly was Wells convinced of this fact that he told his wife on their way home that he intended to have the gas the next day, and have a tooth extracted. On arriving home, he left his wife and went to see his friend Dr. Riggs to announce his great discovery, and his intention to take the gas for the extraction of a tooth. Riggs tried to dissuade him from it, but his mind was made up, and he said, "As the young man did not feel pain at the time he was hurt, why cannot the gas be used in the extraction of teeth?"

Early next morning, the 11th of December, Wells called on Colton, and engaged him to go to his office at 10 o'clock and give him the gas. He did so, and Dr. Riggs extracted a large molar tooth for Wells while under the influence of the gas. Wells did not seem to feel any pain. He remained unconscious for a few moments, and on coming to he exclaimed, "A new era for tooth-pulling! It did not hurt me more than the prick of a pin. It is the greatest discovery ever made."

For the moment Wells' enthusiasm was unbounded, He immediately began the administration of the gas, and daily extracted teeth under its influence, and other dentists in Hartford adopted the same practice with the same success.

Dr. Marcy, then of Hartford, on witnessing Wells' operation, told him that when a student at Amhert College, he, with other students, had for amusement often inhaled nitrous oxide gas, and also the vapour of sulphuric ether, and that the effects of the two were identical, and he suggested to Wells to try ether as a substitute for gas. On this hint Wells tried it. He inhaled it himself, and he says, "I found it very difficult to inhale the vapour of ether in consequence of the choking sensation. For this reason, and for the reason that Dr. Marcy and myself came to the conclusion that nitrous oxide gas was not so liable to do injury, resolved to adhere to this alone."

Wells continued the use of the gas, and the dentists Riggs, Terry, Braddock, and Comfort; and the doctors in Hartford were well convinced of its value as an anæsthetic.

But, as Marion Sims writes (*Virginia Medical Monthly*), Wells felt that his great discovery should be laid more broadly before the profession and the world, and early in 1845 went to Boston for this purpose. Through his former pupil and partner, Dr. W. T. G. Morton, dentist, he was introduced to Dr. John C. Warren, Dr. Charles T. Jackson, Dr. Hayward, and others. Dr. Warren received him kindly, and Wells remained in Boston several days with the expectation of giving gas to a man who was to submit to an amputation at the hands of Dr. Warren. For some cause the operation was postponed. Wells was then invited to address the class at the medical college on the subject. He did so at some length, and then administered the gas for the extraction of a tooth. Unfortunately the gas-bag was removed too soon, the patient was not sufficiently anæsthetised; he screamed out and said he felt the pain of extraction, and the experiment was, therefore, a failure. Wells was hooted at, and unfeelingly hissed out of the operating theatre, pronounced a charlatan, and his anæsthetic a humbug. He returned home, greatly mortified at his failure, was taken suddenly ill, and did not recover his health for many weeks.

His denunciation as a charlatan was due to the fact that the students thoughtlessly looked on him as one of the class of itinerant lecturers on electro-biology, suggestion, or mesmerism. Side by side with the chemical lecturer who demonstrated the stimulating effects of "laughing gas," was the mesmerist who by suggestion and chicanery amused his audience. At the very time Wells was claiming anæsthetic properties for nitrous oxide gas, operations were being performed on hypnotised patients. By some fatality the gas never appeared to the public to be worthy of serious consideration. Gillray published his celebrated caricature, "New Discoveries in Pneumatic Medicine," on the 23rd of May, 1802, in which he represents Dr. Garnett, lecturer on chemistry, assisted by Mr. Humphry Davy, practically demonstrating his discourse by experiments on Sir J. C. Hippesley, through whose body the gas appears to pass as freely as it enters his mouth. The droll head of Count Rumford is discovered near a cabinet of electric apparatus; behind the Count appears the hawk-like beak of Isaac D'Israeli. Near Lord Stanhope (in top boots, and leaning on a stick) is a pamphlet—"Hints on the nature of air required for the New French Diving-Boat." Lord Stanhope's immediate neighbours are understood to be Earl Pomfert and Sir Henry Englefield. Among the persons interested are Miss Lock, Mr. Southby, Mr. Denys (with a maul-stick and palette, holding his little boy), Lady Charlotte Denys, Mr. Thodal, a German *attaché*, and several others. Mesmerism never suffered such fierce ridicule.

From 1830 to 1856 mesmerism, or as it was now called, hypnotism, had, principally owing to the writings of Mr. James Braid, of Manchester, shaken off charlatanism, and, clothed in scientific robes, appeared as the much-desired anæsthetic. Under its influence Esdaile performed three hundred capital operations of every description, and many of them of the most terrible nature, without inflicting pain on the patients. Cloquet and Broca also operated under the influence of hypnotism. Braid published his "Physiology of Fascination," and "Suggestion" became recognised as a useful therapeutic agent.

The great majority of the medical profession were opposed to mesmerism, no matter what name it bore; withal, a few prominent members decided to fairly test the value of "Suggestion" as a remedy. Amongst these was Dr. Gibbs, of South Carolina, of whom Dr. Grandy (*Virginia Medical Monthly*) writes:—"He and others claimed to have witnessed operations on patients mesmerised, and declared that mesmerism was the *ne plus ultra* needed to kill pain in surgical operations."

VACCINATION IN INDIA.

The *Indian Medico-chirurgical Review* summarises the state of Vaccination in the Central Provinces, India, in 1894-95. The figures may be taken as representative in this department of Indian hygiene. The population of the province is 12,131,300. The number of primary vaccinations was 416,085, an increase of 39,904. Re-vaccinations were 54,507. "Of the total of 470592, there were 401,186 successful primary vaccinations and 42,612 successful re-vaccinations, giving a per-centage of 96.42 of the former, and of 78.18 of the latter. The average number of operations performed by each vaccinator is stated to be 78.18. During the year compulsory vaccination was extended to nine municipal towns."

TUBERCULOSIS COMMUNICATED BY A SPARROW.

At a recent meeting of the *Société de Biologie* (reported in the *Gazette Médicale de Paris*), M. Durante mentioned a case in which a woman had been pecked on the finger by a sparrow. Lupus developed at the wound, and glands at the bend of the elbow were secondarily affected. The tuberculous nature of the lesions was demonstrated by extirpation and inoculation. It was suggested that the bird had been infected from the corpse of a patient who had died of tuberculosis.

WORKING WOMEN.

We earnestly recommend to the notice of all who love to help and teach and encourage the "working woman," Miss Bessie Bernard's *Scattered Leaves for Working Women*, a little pamphlet published by James Montgomery, Londonderry. It is a paper read by the author at a Working Girls' Club; and it seems to us eminently suited to its purpose, and to its audience. It is full of sympathy and practical advice, and completely free from the tone of condescension which is so apt to mar the best-meant efforts to improve our fellow-creatures.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Twentieth Century Practice. An International Encyclopedia of Modern Medical Science by Leading Authorities of Europe and America. Edited by THOMAS L. STEDMAN, M.D., New York City. In Twenty Volumes. Volume VI. Diseases of the Respiratory Organs. London: Sampson Low, Marston & Company, Limited, St. Dunstan's House, Fetter-lane, Fleet-street, E.C. 1896. 8vo. Pp. 743.

THE contributors to the present volume of this stupendous literary work are Dr. Winslow Anderson, of San Francisco; Dr. Francke H. Bosworth, of New York; Dr. Albert H. Buck, of New York; Dr. George A. Gibson, of Edinburgh; Dr. Prosser James, of London; Dr. E. J. Moure, of Bordeaux; Sir Thomas Grainger Stewart, of Edinburgh; and Dr. Jonathan Wright, of Brooklyn.

The subject-matter embraces diseases of the nose and its accessory sinuses, of the naso-pharynx and pharynx, of the ear, tonsils, larynx, trachea and bronchial tubes, and of the lungs.

The article on diseases of the nose is by Dr. Prosser James. It is uneven, but very comprehensive. We would remind the author that the term "anosmia" does not mean "absence of smell," but absence or loss of the *sense* of smell, which is quite another thing. The author seems to draw a hard and fast line between nasal tuberculosis and lupus (pages 72 and 73). In fact, at page 6 he makes no attempt to simplify the use of the latter term, for he writes—"The nose is a favourite point of attack of the *several forms of disease to which the name lupus has been given.*" Surely this is unworthy of "Twentieth Century Practice."

The condition of the nasal passages in measles is disposed of in three lines thus:—"Measles is usually ushered in by a watery discharge, which is sometimes followed by epistaxis or by severe inflammation. Occasionally atrophic rhinitis seems to be started by an attack of measles." This is sketchy, unscientific, and unsatisfactory. Some allusion might well have been made to the important researches of Hebra and Mayr on the characters of the nasal mucus in this exanthem.

Dr. Jonathan Wright, of Brooklyn, contributes a short but able article on diseases of the accessory sinuses of the nose. The illustrations of these sinuses on pages 80 and 81 are very roughly executed though otherwise useful.

The third article, on diseases of the naso-pharynx and pharynx, are by Dr. E. J. Moure, of Bordeaux. It possesses all the characters of a French monograph, and runs to 103 pages, whereas "Diseases of the Ear" are disposed of by Dr. Albert H. Buck in 46 pages. Dr. Moure has another long article on diseases of the tonsils. He is a recognised authority on this and kindred topics, and what he has written must command attention.

Dr. Bosworth, of New York, writes at great length on diseases of the larynx. In his communication he gives a full account of tuberculosis as it affects the larynx, and afterwards proceeds to describe lupus of the larynx, which he calls "this curious affection." His definition of it seems to us to be singularly unhappy. "Lupus," he writes (page 418), "is a term which we use to designate a specific morbid condition which in a large majority of instances arises primarily in the skin, but may also attack, primarily or secondarily, the mucous membrane of the nasal passages, the fauces, or the larynx." He admits the close relationship between lupus and "phthisis," which "seems clearly established on pathological grounds, and this is reinforced by clinical investigation." "When we come to consider lupus of the air tract, however, this teaching is not fully borne out, since I find but a single case—viz., that of Thoma, in which lupus of the throat occurred in an individual showing evidence of tuberculous deposit in other regions." We suppose that, as Dr. Bosworth is discussing the ætiology of "lupus" in the section of his work from which the foregoing quotations are taken, we are to understand him as maintaining merely that "we are scarcely justified in regarding tuberculous disease of the lungs or of other organs as standing in any but the most remote causative relation" to "lupus of the air tract." In this view we agree with him, and also when he contrasts tuberculosis with lupus on page 418:—"In one case, however, the morbid process is an active one, while in lupus the morbid process is essentially a chronic or latent one, so latent as practically to constitute a local lesion rather than a systemic invasion."

Still at this time of day, on the threshold of the Twentieth Century, and in "Twentieth Century Practice," it is somewhat retrograde to differentiate sharply between lupus and tuberculosis.

The first paragraph of the section on "Pathology" by our author reads thus (page 420):—

> "The assertion made by Neisser and Friedländer in 1881, that lupus constituted a true tuberculous process, was in the following year verified by Koch in the announcement that he had discovered the presence of the tubercle bacillus in lupus nodules—a view which was still further confirmed and practically substantiated by the experiments of Schuller, Koch, and others, who produced tuberculous disease in the lower animals by the inoculation of lupus tissue, while Koch, going still further, produced pure cultures of tubercle bacilli from tissues invaded by lupus."

This quotation should clear the ground.

Dr. Bosworth deals very exhaustively with the subject of laryngeal paralyses under the heading "Neuroses of the Larynx." He has also some highly instructive observations on spasm of the glottis as it occurs in children and in adults. The same remark applies to his account of laryngeal incoordination, which he classifies as (1) Chorea of the larynx; (2) Dysphonia spastica; and (3) Laryngeal vertigo. The chief symptom in the first-named is a persistent, noisy, dry cough, resembling the bark of a dog, recurring every 2 or 3 minutes, except during sleep. Chorea of the larynx occurs especially in girls about the age of puberty. Dr. Bosworth places reliance on Fowler's solution of arsenic as a remedy for the affection, in which also bromide of potassium in full doses and the faradic current are stated to give good results.

Fracture of the larynx and prolapse of the laryngeal ventricles are among the many interesting topics discussed by Dr. Bosworth, who also treats of laryngeal tumours. Carcinoma of the larynx seems to be extremely rare. Out of the 11,131 cases of cancer recorded in the hospitals of Vienna, only 63 affected the larynx. Lébert found 3 instances of laryngeal cancer in 9,118 cases, Winniwarter 1 out of 548, and Baker 3 in 500. The latter figures leave us somewhat in doubt whether the word "cases" refers to cancer elsewhere in the body, or to cases of various laryngeal affections.

The monograph on the diseases of the trachea and bronchial tubes is the joint work of two distinguished Scotch physicians, Sir Thomas Grainger Stewart and Dr. George Alexander Gibson, of Edinburgh. The scope of the work will be best understood from the authors' introductory statement. They say:—

> "In the present article the description of the diseases of the trachea and bronchial tubes is preceded by introductory discussions as to the anatomical, physiological, pathological, semeiological, and therapeutical aspects of these diseases in general. The diseases themselves are classified in accordance with the usually accepted teaching. The diseases of the trachea and bronchi are dealt with first, and then those of the bronchial tubes. Among diseases of the trachea and bronchi, the inflammations are first considered—catarrhal, fibrinous, diphtheritic, and mycotic; ulceration and stenosis follow. Of the diseases of the bronchial tubes, as in the case of the trachea and bronchi, the inflammatory affections receive attention in the first place: catarrhal inflammation in the acute form as it affects the smaller or the larger tubes, and in the chronic form according as it is dry, moist or putrid; fibrinous inflammation in its acute and chronic forms then follows. Stenosis, or narrowing of the bronchial tubes, and bronchiectasis or dilatation are then taken up, and asthma finally receives attention."

The account of bronchiectasis is the most comprehensive with which we have ever met. This is not to be wondered at, seeing that Sir Grainger Stewart is not now for the first time identified with the literature of the subject.

In discussing the treatment of the results of the disease, mention is made with marked approval of intratracheal injections of suitable antiseptics. The solution employed with remarkable success by Sir Grainger Stewart in several cases consisted of menthol 10 parts, guaiacol 2 parts, and olive oil 88 parts. Of this a drachm was injected through the glottis, by means of a special syringe, twice daily. Under this method of treatment the fœtor speedily diminished and finally disappeared. The authors assure us that experience shows intratracheal injection to be absolutely free from danger, and easily applied by one who has had a little practice in the matter.

One of the characteristics of this article on diseases of the trachea and bronchial tubes is the very full historical account of the researches on the different diseases which is given. This is particularly true in the case of both bronchiectasis and asthma. The latter affection is described as presenting three types—(1) Hay asthma and allied processes; (2) pure spasmodic asthma; (3) bronchial asthma. Should we not add "cardiac asthma" and "renal asthma?" These conditions the authors distinguish from asthma by the names "cardiac dyspnœa" and "renal dyspnœa."

The last article in this volume is on diseases of the lungs, excluding "croupous pneumonia" and tuberculosis. The author is Dr. Winslow Anderson, of San Francisco. A glance through his work shows that he has rather slavishly followed Niemeyer in his classification of morbid conditions of the lungs. Lobular pneumonia, he states, is now regarded by most writers as an infectious inflammation, the pathogenic micro-organism of which is supposed to be either the bacillus of lobar pneumonia or the streptococcus of suppuration. Personally Dr. Anderson rather inclines "to the view that lobular pneumonia is an extension of the inflammatory process present in the capillary mucous membrane, which involves the air-cells and tissues immediately surrounding them."

In the catalogue of causes of this form of inflammation of the lungs which he gives under the head of ætiology, we find no mention of "inhalation-pneumonia," which the disease really is in many instances. This is the more remarkable as we meet, two pages further on, under the head of pathology, with this very suggestive sentence—"The capillary secretion may be sucked into the air-cells themselves and thus set up the lobular pneumonia."

There can be little doubt, also, that pneumonia in the infirm and aged often springs from fragments of food or other foreign bodies being sucked into the air vesicles, so that inhalation-pneumonia certainly deserves recognition in any account of the ætiology of lobular pneumonia.

It will be seen from the foregoing critical analysis of the contents of Volume VI., that the character of "Twentieth Century Practice" is well sustained in its pages. We congratulate the courteous and self-effacing editor, Dr. Stedman, on the successful completion of another instalment of his giant task.

On Gall-Stones, or Cholelithiasis. By EDWARD MANSFIELD BROCKBANK, M.D. Vict.; M.R.C.P.; late Resident Medical Officer to the Manchester Royal Infirmary and the Birmingham General Hospital. London: J. & A. Churchill. 1896. Pp. 301.

WE have great pleasure in congratulating Dr. Brockbank on the admirable work he has produced. Its origin he traces to a number of experiments he made on the solvent action of certain drugs on gall-stones. In the course of these he found that there existed in English no *résumé* of the literature of the subject: hence he wrote this volume. He modestly states that it mainly consists of the views of others. As we read it, however, we find that the author's contributions to our knowledge of the subject have been numerous and important.

In the first chapter the varieties of gall-stones are described. In Chapter II. the physiology and chemistry of the bile, and of cholesterin in particular, are discussed. Three possible sources of cholesterin are mentioned—(1) it may exist in the blood and be excreted by the liver; (2) it may be formed by the liver; (3) it may be secreted by the epithelium which lines the bile-ducts and gall-bladder. On these the author, after relating several of his own observations, writes: "I think it is not unreasonable to conclude that cholesterin is formed by the mucous membrane of the biliary passages. The cholesterin may be formed as a result of degeneration of the cell elements of the mucous membrane, but it is also possible that some of the glands which exist in the wall of the biliary passages may secrete it." He also considers it probable that some of it may be excreted by the liver from the blood.

In the next chapter the relation of gall-stones to age, sex, locality, and other diseases are very fully discussed. Then that very obscure subject, the ætiology of cholelithiasis, is brought before us. An excessive formation of cholesterin takes place, Dr. Brockbank says, in old age. It is especially the bile-salts which normally keep the cholesterin in solution. These bile-salts are formed in less amount when the dietary consists of non-nitrogenous materials. Certain pathological states of the liver also lessen their amount. Biliary stagnation, with the consequent infection of the bile with micro-organisms, may also have some share in the production of cholelithiasis. But when all is said, we feel that this is not much more than a translation into modern language of the views of Dr Thomas Coe, who lived 140 years ago. He writes (as quoted by Dr. Brockbank): "When by any means the bile is retarded so as to stagnate, it is readily formed into biliary concretions. There are many causes which contribute to the inspissation and stagnation of the bile—declining age, sedentary or inactive life, a slower circulation of the blood, and the use of spirituous liquors. Gall-stones are oftener found in women than in men (five to one). Compressing the viscera is another cause. Angry passions and long-continued grief have a wonderful effect on the bile. But perhaps we should add to all these causes a peculiar disposition of the body, owing to circumstances which are not to be explained, for we do not see gall-stones bred in all who are old or inactive, and they are sometimes found in those who are not old, nor want exercise." Our present knowledge of cholelithiasis very slightly exceeds that of Dr. Coe.

The symptoms produced by gall-stones and all the complications and accidents that may occur occupy 150 pages. Dr. Brockbank has given an admirable account of these; it is by far the best description of the disease that we are acquainted with. We can warmly recommend it.

With regard to Treatment, there is not much that is novel. The author mentions the views of most authorities on the subject. In accordance with his views as to the use of nitrogenous food, he recommends that the diet should largely consist of the lighter forms of nitrogenous foods. In the last two chapters the surgical methods are very well described. We think, however, that this chapter might have been even more useful to surgeons had a larger bibliography been given.

We have been much pleased with Dr. Brockbank's work, and can warmly recommend it.

Epidemic of Beri-beri (*Occurring among Japanese Immigrants in* 1894–95—*Report on*). Legislative Council, Fiji. 1896. Pp. 40.

THIS is an elaborate Report by Mr. B. Glanvill Corney, Chief Medical Officer, on the first appearance of epidemic beri-beri in Fiji. Reports on "subdivisions of the epidemic," occurring at Nausori and Wailevi, supplied by the District Medical Officers, Mr. C. T. W. Hirsch and Dr. H. N. Joynt, complete the medical history of a rare disease, which threatens to become familiar to us here. Mr. Corney alludes to the Richmond Lunatic Asylum outbreak of 1894, which he attributes to overcrowding, remarking that it had not been traced to any specific infection from without. Further on, however, he tells us that "the best authorities agree in believing that residence of, at the very least, some weeks' duration in an infected place is an essential factor in producing beri-beri in a person who has not previously suffered from it." Dr. Conolly Norman should be able to confirm or confute this belief of "the best authorities." We shall quote Mr. Corney's definition—or description—of the disease, which is fairly satisfactory:—

> "Beri-beri may be described as a specific breakdown of the motor and sensory nerves (principally), usually manifesting its effects first about their peripheral portions but extending later to the more central tracts, and involving muscles and organs of vital importance which in health are regulated by the sympathetic system. In the latter way it tends to cause death, by paralysing the heart and the muscles of breathing, or by precluding the continuance of

the digestive and assimilative functions; or by choking, so to call it, the lungs and other viscera by means of the œdema to which, in one class of cases, it gives rise. This type is, for convenience of description, called 'wet beri-beri,' and is characterised by dropsical distension (œdema); the other, the atrophic or 'dry' form, leads to rapid or extreme wasting of the body. In both the patient becomes paralysed and helpless; and there is a tendency to terminate suddenly in death in the manner described."

As to the ætiology of beri-beri, we do not, ourselves, believe in overcrowding as a cause. There is overcrowding in abundance and little beri-beri. The cause is to be looked for in the food; and the reporter himself supplies instructive illustration. Takaki Kanechiro, F.R.C.S.L., Director-General of the Medical Department of the Japanese Navy, improved the dietary by the increase of its nitrogenous elements, and within three years beri-beri disappeared from the service, where it had been rife. In 1883, in a force of 5,346, 23·12 per cent. were afflicted with kak'ke (the Japanese equivalent of beri-beri), 49 died—36·9 per cent. of cases. In 1884 the rations were reformed, both carbonaceous and nitrogenous elements being increased, the latter especially. The ratio was made 20·1. The ratio of cases fell to 12·74 per cent.; deaths to 8. He then brought up the proportion of nitrogenous food to one-sixteenth. In 1885, the force was 6,918; the percentage of cases, 0·59; deaths, none. In 1886, in a force of 8,475, there were 0·04 per cent. of admissions for kak'ke, and no death. In 1887 there were no cases. The new ration was less than the old in total quantity.[a] In spite of these most remarkable facts, Mr. Corney does not believe deficiency of nitrogen in the food to be the "sole or active" cause of beri-beri. It is merely a predisponent. There is, he says, a specific poison—there are a bacterium, a micrococcus, mycelial growths in the blood. We are not informed who has seen these things, but we are told that Manson "has always failed to find a distinctive micro-organism in beri-beri."

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[a] We may refer here to an interesting paper published in the Madras Monthly Journal of Medical Science, Vol. V., by Assistant-Surgeon D. Kearney. He gives plausible reasons for believing that beri-beri is akin to ergotism, a result of feeding on diseased grain. This suggested ætiology is worthy of examination.

So far as Fiji experience goes, no blame can be laid on the shoulders (so to speak) of the *ankylostoma duodenale*; nor is there any necessary connection between beri-beri and anæmia.

The reports of Mr. Hirsch and Dr. Joynt upon the little epidemics which came under their observation are carefully prepared. The former points out that the term "beri-beri" has been loosely applied to cases of ankylostomiasis, and of peripheral neuritis of microbic origin and epidemic prevalence. Dr. Joynt's review of ætiological hypotheses, which concludes his report, is valuable.

Surgical Emergencies, together with the Emergencies attendant on Parturition and the Treatment of Poisoning: A Manual for the Use of General Practitioners. By Paul Swain, F.R.C.S.; Surgeon to the South Devon and East Cornwall Hospital. Fifth Edition. Crown 8vo. Illustrated. London: J. & A. Churchill. 1896.

We cannot speak highly of this book. In the first place, we fail to recognise the necessity for it. The emergencies of surgery receive ample attention in all our good text-books. Secondly, we are of opinion that it is absurd to suppose that a book of 240 pages could possibly deal adequately with the subjects mentioned on the title-page. Such a book cannot but be uninteresting, and the present volume is, to our mind, particularly so. Moreover, it is not free from mistakes, and here and there is wanting in precision. On page 8 we find Mr. Treves' account of the method for finding the position to trephine in cases of middle meningeal hæmorrhage. "A line is drawn round the skull at a level with the upper margin of the orbit." . . . . Here this sentence ends, but in the original we have the important addition, "and is throughout parallel to Reid's Base Line."

On page 107 we are told that the cæcum has no longitudinal bands! In describing the treatment of cut-throat, in cases where the carotid must be tied, the author advises ligature below the omo-hyoid; this is unusual. The limits for the incision are not very precise—"from a point opposite the thyroid cartilage to the sternum." In the account of the operation we have a sentence containing twofold difficulty: "Divide the dense fascia attaching this muscle" (the omo-hyoid) "to the sheath on the director." The omission of commas is clearly accidental, but we are not familiar with any dense fascia attaching the omo-hyoid to the carotid sheath.

It is difficult to understand how pressure on the facial arteries could arrest epistaxis.

Of course, the book contains much sound surgery, and the fact that it has reached its 5th edition would seem to show that it has proved useful to those for whom it is written.

Dairy Milk: its Dangers and the Remedies. By CHARLES HENRY LEET, M.D., F.R.C.S.I.; late Surgeon-Major, A.M.S. Liverpool: C. Tinling & Co. 1896.

DR. LEET quotes the opinion of 20 eminent British physicians in favour of the use of sterilised milk for infant feeding. He describes various forms of sterilisers, especially those devised by Professors Foxplet and Hawksley. He quotes Dr. Sims Woodhead's directions for the domestic sterilisation of milk:—

> "(1) The quantity of milk should never be more than the quantity of cold water by which it is surrounded; it is an advantage, in fact, to have a somewhat larger bulk of water than of milk, to allow for evaporation. (2) The milk should not be covered in, and should be stirred from time to time, but the water may with advantage be covered, in order to prevent evaporation; this, of course, is arranged for in special milk sterilising pans. (3) The water should be boiled over a good brisk flame, in order that the best results may be obtained, and the heating process should be continued until the temperature throughout the milk has risen to from 88° C. (190° F.) to 92° C. (198° F.); in most cases this takes place at the end of about twenty-five minutes, but in order to be perfectly safe it may be recommended that every quart of milk treated in this fashion should be heated for half an hour—that is, for about twenty minutes after the water in the outer pan has begun to boil."

Dr. Leet has himself done something of a practical nature in reference to sterilised milk. He says:—

"A simple, practical apparatus for immediate and thorough cooling-down of the sterilised milk on the completion of the process of sterilisation in the Cathcart patent, has been felt in our Medical Home absolutely necessary to safeguard this valuable sterile milk on its perilous voyage from the boiling Cathcart stop-cock to the infant's mouth (every four hours for twenty-four hours milk supply).

"Our apparatus consists of a covered tin vessel. The inlet aperture on one side conveys, by an indiarubber tube, a stream of running water from the house water tap into the vessel, the water passing out by the outlet aperture in the opposite wall of the vessel. A sufficient number of feeding bottles filled with the hot sterilised milk, and fitted with air-tight black rubber teats, are arranged in sockets inside the vessel, and the running cold water soon reduces the temperature to that of the water—a fall of about fifty degrees. In summer for infants, and at any time for adults with gastric troubles, the cooler can become a refrigerator for milk or milk foods. The cooler renders sterilised milk more palatable—more aroma, no burnt taste. Again, warm milk, from its remarkable capacity for heat, parting with it much more slowly than does hot water, suffers from changes in itself which would be injurious to infant life, but the cooler arrests all such evils for twenty-four hours at least.

"Lastly, the cooler minimises the risk of microbic contamination from without, *en route* to the infant's mouth, whereas the Cathcart vessel is at the mercy of every inquisitive nurse-girl so disturbing the cotton-wool whilst twirling the stirring metal rod, that microbes may freely gain access to the happy hunting grounds below; can she be trusted to use every four hours a sterile feeding bottle and teat in a badly ventilated kitchen with an average temperature of 63°? she can tamper with the milk, add impure water, drink it, &c."

Dr. Leet's little brochure is well worthy of attention.

Transactions of the Clinical Society of London. Volume XXIX. London: Longmans, Green & Co. 1896. Pp. 267.

THIS volume of the Clinical Society's Transactions is well up to the level of its predecessors, and represents work that any Society might be proud of. We have looked through it carefully; and where all is so good we find it somewhat difficult to pick out any paper for special commendation. Still we must call particular attention to a few.

One of the most interesting papers is that of Drs. Pitts and Ballance on "Three Cases of Splenectomy for Rupture." They point out as one of the most important signs pointing to splenic hæmorrhage, the fact that while there is dulness in both flanks, that on the right disappears with change of posture, being caused by fluid blood, while that on the left does not so disappear, being caused—at least in part—by blood clotted about the seat of hæmorrhage. All these cases recovered.

Drs. Coleman and Ballance give a most interesting account of a case of sensory aphasia, alexia, and agraphia due to the presence of a tumour in the region of the angular gyrus. To relieve pressure, an operation was done, and a cyst being found in the tumour its contents were drained, with temporary improvement. In the end, however, the patient died. A number of coloured plates illustrate the operation and the autopsy, and also the recorded cases of sensory aphasia due to tumour.

Mr. Mayo Robson has a valuable paper on enterectomy. Drs. Hale White and Golding-Bird record a case of membranous colitis treated by a right colotomy: the intestinal trouble was greatly lessened even after the colotomy wound had closed.

There are many other papers which will well repay perusal. We have only picked out a few which especially interested us.

Post-mortem Examinations in Medico-legal and Ordinary Cases, with Special Chapters on the Legal Aspect of Post-mortems and on Certificates of Death. By JAS. JACKSON CLARKE, M.B., Lond., F.R.C.S.; Assistant Surgeon to the North-west London Hospital, &c. London: Longmans, Green & Co. 1896. Pp. 78.

MR. JACKSON CLARKE is modest. He apologises in his preface for the publication of this work, and hopes its production may be excused because it contains an account of the gloves he uses in making autopsies. These gloves are made of stockinette covered with indiarubber; they are called "Photographer's Gloves," and may be obtained for the sum of 5s. 6d. a pair.

The second ground on which he excuses his little book is because he has incorporated in it a number of matters which are generally looked for in works on Forensic Medicine. We do not see any objection to referring for such information to works on Forensic Medicine.

On the whole we think that Mr. Jackson Clarke might with advantage have been still more modest and have satisfied himself with an article in one of the medical journals.

Journal of the Scottish Meteorological Society. Third Series. Nos. XI. and XII. Edinburgh and London: William Blackwood and Sons. 1896. Pp. 208.

THIS fasciculus of Vol. X. of the *Journal of the Scottish Meteorological Society* contains several valuable contributions. Dr. Alexander Buchan, the veteran Secretary of the Society, describes, in a very interesting paper, the high temperature of September, 1895, as observed in Scotland, and particularly at the Ben Nevis Observatories. Of these, it may be remembered, one is situated at Fort William, at the base of the mountain, only 42 feet above mean sea-level. The other is perched on the very summit of the mountain at an altitude of 4,407 feet.

The results obtained from a scientific comparison of the observations taken at both stations, not only in September, 1895, but now through a considerable series of years, open up new and fruitful fields for inquiries into the practical question of weather forecasting, particularly in giving early indication of the increasing humidity of the higher strata of the atmosphere in advance of an approaching cyclone, of which low-level observations of themselves give no indication.

Mr. R. C. Mossman, F.R.S. Edin., of Edinburgh, contributes as many as four papers. Their titles are—"On the Diurnal Range of Temperature Variability at the Summit and Base of Ben Nevis, Lady Franklin Bay, and Hong Kong," "On Sunshine, with Different Winds, at Edinburgh," "On the Number of Auroras Observed over the N.E. of Scotland from 1773 to 1894, during each Day of the Year," "The Frost of 1895 in Scotland," in which the disastrous effect on the public health of the prolonged cold is clearly brought out.

Mr. Andrew J. Herbertson makes an important communication on "Hygrometric Researches at High and Low Levels," in continuation of a former report on the results of a winter's hygrometrical work at Ben Nevis Observatory, which was published in the last number of the *Journal of the Scottish Meteorological Society* (Vol. X., pp. 41–49).

In addition to these papers, there are the usual meteorological Tables and reports on the weather in Scotland.

A Manual of Infectious Diseases. By E. W. GOODALL, M.D. Lond., Medical Superintendent of the Eastern Hospital of the Metropolitan Asylums' Board, formerly Medical Registrar to Guy's Hospital; and J. W. WASHBOURN, M.D. Lond., Fellow of the Royal College of Physicians, Physician to the London Fever Hospital, and Lecturer in the Medical School. London: H. K. Lewis. 1896.

IN this well-written and well-illustrated octavo volume of 368 pages (the last eight being occupied by the Index), the authors have given a fairly judicious, but necessarily short—and, we are sorry to be obliged to add, often too superficial—account of the ætiology, symptoms, and treatment of the principal infectious fevers. The volume is professedly designed for students, for whom attendance in the wards of a fever hospital is now compulsory. The authors also "hope that it will prove helpful to those who have little or no time to spare for special courses of instruction such are now held in most of the large fever hospitals in London and the provinces." One of the important features of the Appendix is a *résumé* of a Report of the Medical Officers of the Metropolitan Asylums' Board Hospitals upon the antitoxin treatment of diphtheria, which was published while this volume was passing through the press.

There are diagrams of the principal rashes, and although the majority are of the type usually described as semi-diagrammatic, the most sketchy are made to indicate the relative distribution of the eruptions, which is something. There is a very good selection of temperature charts interspersed in their proper places, and there are five important plates of the more important types of the almighty microbe. Plate II. is a specially good one, and contains two representations of the influenza bacillus—in *sputum* and *cultivation*—each × 1,000.

We have no hesitation in recommending the volume to students of fever. It is short by election, and superficial and sketchy by consequent necessity, but, with these reservations, we think that the authors have produced a beneficial text-book on a most important subject.

Guide to the Examination in Practical Chemistry for the Conjoint Board of England. By PERCY A. E. RICHARDS, F.I.C., F.C.S.; Demonstrator of Chemistry and Public Health at the Charing Cross Hospital Medical School, &c. London: Baillière, Tindall & Cox. 1896. Pp. 57.

THIS little book contains a number of tables, such as are used in Practical Chemistry Classes. The characteristic reactions of each metal and of each acid radical are first given; then the metals and acids are divided into groups for purposes of identification. A list is given of a few salts whose detection presents unusual difficulties, and their peculiarities are pointed out; next the mode of preparing a number of salts is explained; and lastly a large number of chemical equations are introduced illustrating the reactions which occur in the various tests employed.

We note that the course in organic bodies, other than organic acids, is very limited, only urea, sucrose, and glucose being introduced.

This is a well written and excellent little book, but not better written or more excellent than those which are in common use in our Dublin Medical Schools.

PART III.

SPECIAL REPORTS.

REPORT ON PRACTICE OF MEDICINE.

By Henry T. Bewley, M.D. Univ. Dubl.; F.R.C.P.I.; Assistant Physician to the Adelaide Hospital; and Lecturer on Medical Jurisprudence in Trinity College, Dublin.

(Continued from page 433.)

VIII. INFANTILE SCURVY FROM THE USE OF STERILISED MILK.
IX. ON ASPIRATION OF THE PERICARDIUM AND HEART.
X. SYPHILITIC LESIONS OF THE HEART.
XI. ON THE USE OF SALICYLATE OF SODIUM AND BROMIDE OF POTASSIUM IN THE IRRITABLE TEMPER OF HEART DISEASE AND GOUT.
XII. THE CAUSE AND TREATMENT OF SOME KINDS OF COUGH.
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XX. CALOMEL.
XXI. THE CLINICAL VALUE OF THE PHENYL HYDRAZIN TEST.

VIII. INFANTILE SCURVY FROM STERILISED MILK.

Among artificially fed infants, particularly those belonging to the wealthier classes, where the surroundings are most favourable and the supply of cow's milk as nearly perfect as possible, one encounters cases of malnutrition verging even upon simple atrophy, which are due solely to sterilisation of the food, a fact readily established by the rapid improvement following the use of identically the same milk mixtures either Pasteurised or untreated by heat. In the opinion of Dr. Louis Starr, of New York, the alterations produced in cow's milk by sterilisation may also lead to the development of the complex of symptoms known as infantile scurvy, but as this point has been disputed it is a matter of interest and importance to place upon record the following cases that have come under observation during the past two years:—

The first patient had been fed from birth upon a mixture of sterilised milk and water in the proportion, at first, of one-third, then one-half, and next two-thirds, with two teaspoonfuls and a half of cream and one teaspoonful of sugar to each six-ounce bottle. He apparently thrived until the age of eight months, when the symptoms of scurvy appeared—namely, spongy and bleeding gums, pain in and immobility of the legs, and some swelling above the knee and ankle joints.

The treatment adopted was discontinuance of sterilisation without alteration in the composition of the milk food, the administration of a teaspoonful of orange juice and the same quantity of raw beef juice three times daily, and small doses of citrate of iron. Result—complete recovery in a little over three weeks.

The second patient had been bottle-fed from birth. Up to the fourth month a condensed milk mixture was employed; then he was placed upon a sterilised mixture of cow's milk, cream, lime-water, and sugar of milk. The initial symptoms were fretfulness, disturbed sleep, slight feverishness, and violent paroxysms of crying when picked up in the arms, or when the legs were moved, or pressure made about the hips or knee-joints. These joints were not perceptibly swollen, nor was there redness or other discoloration of the surface. The gums, however, of both the upper and lower jaw in the neighbourhood of the two lower and four upper incisors, which were well advanced, were swollen and of a "deep raw-meat colour." This discoloration decreased after a short time to a purplish line limited to the margin of the gums.

No change was made in the composition of the food, but Pasteurisation was substituted for sterilisation in its preparation, and in addition two teaspoonfuls of raw beef juice and from one to two teaspoonfuls of orange juice were ordered every four hours.

The patient began to improve immediately, eating better, gaining in weight, and sleeping well. All scorbutic symptoms disappeared in less than three weeks.

The third patient was the child of well-to-do parents living in the country, who first exhibited symptoms of scurvy at the age of seven months. She was artificially fed from birth. The digestive power being small, a sterilised mixture of cream water and milk sugar was employed for five months. Later Mellin's food was added, but increase in the strength of food caused indigestion.

At seven months a slight decrease in the activity of the leg movements was observed. Then pain, evinced by crying, was noticed on moving the limbs; this gradually increased until the slightest movement or touch caused suffering. The parts in the neighbourhood of both knees and the left ankle were the most tender. The gums surrounding the two lower incisors, which were thoroughly advanced, were swollen and purple in colour. Both legs were passive; attempts at movement caused severe pain, and pressure above the knee and ankle joints showed extreme tenderness. There was no swelling, and neither heat nor discoloration of the surface. Examination of the heart, lungs, and abdomen gave negative results, and the urine was normal. There was no indication of rickets.

Immediate discontinuance of sterilisation was recommended, and the child was ordered a partially predigested food, composed of cream, one half fluid ounce; milk and water, each three fluid ounces; peptogenic milk-powder, one drachm. In addition to this, one teaspoonful of raw beef juice and a bitter tonic were given three times daily. The scorbutic symptoms disappeared rapidly.

Not to go into detail, Dr. Starr has seen in consultation during the past eighteen months five cases of scurvy in children aged eighteen, twenty, twenty-two, sixteen, and fourteen months, respectively, which illustrate the ætiologica point in question. In each of these cases the food was properly proportioned, and had for its basis sound cow's milk, but sterilisation had been uniformly employed in its preparation. All recovered rapidly upon the same food unsterilised, with the addition of a small quantity of raw beef juice and orange juice to the diet.—*Amer. Jour. Med. Sci.*, 1895, No. 6, and *Archives of Pediatrics*, Jan., 1896.

IX. PUNCTURE AND INCISION OF THE PERICARDIUM.

MM. Delorme and Mignon, after having made minute anatomical and pathological researches, propose a less dangerous method for incision and puncture of the pericardium. They state that with the usual methods one is almost certain to wound the left pleura. Researches in sixteen bodies show that as far as the level of the fourth intercostal space the edge of the left pleura is hidden behind the sternum and corresponds to its border; in the fifth space in two-thirds of the cases the pleura is wounded, even if one keeps close to the sternum. In one case an attempt to open a purulent pericarditis inoculated the pleura, and in another case incision of the pericardium produced pneumothorax. In great distension of the pericardium the parietal pleura is more fixed than the mediastinal pleura, and is scarcely at all displaced outwards by the distension of the pericardical sac. The operations which they advise avoid all complications, either in connection with the heart, the pleura, or the internal mammary artery. For puncture of the pericardial sac the method is as follows:—A small, cutaneous incision is made in the fifth left intercostal space (if this is too narrow it may be made in the fourth space) close to the edge of the sternum, and the needle of a Dieulafoy's or Potain's aspirator is then introduced close against the bone; the needle first follows exactly the sternal edge, and then the posterior face of this bone for a centimetre; the needle is then pushed directly downwards and a little backwards to a depth of several centimetres until the liquid comes into the aspirator. The needle following the anterior surface of the heart penetrates the antero-inferior pericardial sinus, which is several centimetres deep, bounded above by the heart, below by the diaphragm, and in front by the pericardium. For incision of the pericardium the edge of the left pleura is found and pushed outwards, the fifth and sixth spaces being too narrow at their sternal end to permit a search for the pleura; two centimetres of the fifth and sixth cartilages are excised by means of gouge forceps, commencing at the edge of the sternum. The intercostal vessels of these spaces and the triangularis sterni are then pushed away with the fingers. The anterior face of the pericardium is then sought for with the index finger, and the edge of the pleura is pushed outwards along with the triangularis sterni, the mammary vessels and the soft parts forming the walls of the two spaces. At the bottom of the wound, which is 6 cm. by 3 cm., the pericardium is recognised by its white, pearly colour.—*Gaz. des Hôp.*, No. 149, 1895, and *Quarterly Journ. Med. Science*, April, 1896.

A Case of Endocarditis and Pericarditis with Effusion; Accidental Tapping of the Right Ventricle after Apparent Death followed by Recovery.—Dr. A. T. Sloan reports the case of a girl, nineteen years old, who was attacked by severe erysipelas which lasted for five days; then acute articular rheumatism came on, and was not much relieved by salicylates. During its continuance a pericardial rub was heard, and after ten days a systolic mitral murmur was also noticed. Then the temperature became higher, and the pulse more frequent; and the heart became considerably dilated. The girl could lie only on her back; difficulty in swallowing came on; the heart's action became slower; in spite of stimulants œdema of the lungs caused extreme distress, so that she seemed moribund. At this crisis, as a last hope, a trochar was introduced into the pericardial sac, to remove any fluid that might be stopping the heart; the puncture was made in the fourth space, half an inch to the left of the sternum. When aspiration was employed, pure fluid blood came, and of this about 10 ounces were withdrawn. She improved somewhat, but for the first twenty-four hours her state was most critical, then she gradually though steadily improved, and ultimately recovered.

Dr. Sloan has gathered statistics of various cases in which the heart was tapped either on purpose or accidentally. Several patients survived for days or weeks, one as long as five months. His case appears to be the only one which ended in complete recovery.

In cases of suffocation and of some forms of poisoning, especially with chloroform, Sloan advises puncture of the right ventricle to be adopted as a last resource. The chief danger lies in the possible wounding of a coronary artery.

In the discussion on this case Byrom Bramwell said such a procedure should only be undertaken in the very most extreme cases. He once had tapped the right ventricle with a small aspirating needle; the patient died in half an hour, and the pericardial sac was full of dark blood, and the puncture was quite plainly seen.—*Edinburgh Med. Jour.*, February, 1895.

X. SYPHILITIC LESIONS OF THE HEART.

Dr. H. P. Loomis (New York) gives the following classification of syphilitic lesions of the heart:—

I. *Gummata.* — 1. Recent—soft, reddish or grayish masses; 2. Old—dry, yellow, cheesy nodules.
II. *Fibroid Induration.*—Localised—well-defined masses, large size; Diffused—accompanied by inflammation of arteries; Intermediate Form—outer zone of gumma develops into fibrous tissue; cheesy centre remains as fibroid mass.
III. *Amyloid Degeneration.*
IV. *Endo-arteritis Obliterans, often inducing Infarctions.*

Gummata are usually found in the wall of the left ventricle, rarely in that of the right. They vary in size to that of a large olive. They are not circumscribed, but their peripheral portion blends indistinctly with the surrounding muscle, between the fibres of which, under the microscope, can be seen cellular prolongations from the tumour.

It is often difficult to diagnosticate with the naked eye gummata from sarcomata, solitary tubercles, or the beginnings of abscess. Microscopically gummata resemble some sarcomata, but differ in their tendency to form large cheesy centres. Tubercular lesions elsewhere, and the presence of tubercle bacilli are characteristic of tubercular lesions. In abscess of the heart-wall there is no basement membrane, or blood-vessels between the round cells, and stained sections may show pyogenic organisms.

None of the four cases of gumma, which came under Dr. Loomis' observation, were diagnosticated during life; two of them died suddenly from the lesion. Details of these cases are given.

Fibroid induration of syphilitic origin presents three appearances:—

1. A well-defined fibroid area, from which the muscle-fibres have disappeared. These areas vary from a quarter to half an inch in diameter, are localised, and ordinarily have no connection with the endo- or pericardium, being situated in the substance of the heart.

2. Irregular patches of new fibrous tissue are seen in the wall of the heart. Sometimes they are very diffuse, and often the serous membrane over them is thickened and puckered. These appearances do not differ much microscopically from fibroid myocarditis due to other conditions, though on careful examination the minute arteries in the heart-wall almost always show evidence of obliterating endo-arteritis.

3. There appears to be an interstitial myocarditis of syphilitic origin, the appearance no doubt being due to the partial absorption of a gumma.

Dr. Loomis has seen fifteen cases of fibroid myocarditis, three of which were certainly syphilitic; he has seen only one case of amyloid disease. When symptoms of cardiac failure occur during the prime of life, for which no cause can be ascertained, especially in a patient who has had syphilis, they should suggest syphilis as a cause for the heart trouble. A rapid improvement in the patient, and the amelioration of the cardiac symptoms, which quickly follows antisyphilitic treatment, are important factors in arriving at a positive diagnosis of syphilis of the heart.

These patients either die suddenly, having shown but few if any symptoms directly traceable to faulty heart-action, or succumb apparently from syphilitic marasmus with all the symptoms of a slowly increasing heart-failure.—*Amer. Jour. of Med. Science*, October, 1895.

XI. ON THE USE OF SALICYLATE OF SODIUM AND BROMIDE OF POTASSIUM IN THE IRRITABLE TEMPER OF CARDIAC DISEASE AND GOUT.

After calling attention to the well-known fact that an irritable temper is undesirable, both for its possessor and for those who come into contact with him, Dr. Lauder Brunton shows that in some cases this irritability is not due to a moral wrong, but to gout. In some gouty people twenty grains of bicarbonate of potash, with ten or twenty grains of bromide of potassium, taken when the feeling of irritability comes on, frequently soothes it, and has the further effect of lessening the worry even in those who are not irritable. If this "temper powder," as he calls it, be taken when some irritating occurrence takes place, or some depressing news is heard, it appears to take away the sting of either; so that in place of being much worried, and unable to turn his attention to other things, the person feels as if he had slept over the bad news or the worry.

In cardiac disease, too, irritability of temper is by no means an infrequent symptom. It occurred to Dr. Lauder Brunton that the irritability of heart disease might be relieved by the use of bromide of potassium and salicylate of sodium, and he has had considerable success in using this combination. The subjective feelings of the patients were improved, and while they had previously denied any improvement under the use of digitalis and other cardiac remedies, even though these might have improved the objective condition, they acknowledged, after a few doses of bromide and salicylate, that they felt better. The bromide acts as a simple sedative to the nerve-centres; the action of the salicylate is not so clear, but it may act indirectly by the removal of uric acid.—*Practitioner*, July, 1896.

XII. ÆTIOLOGY AND TREATMENT OF CERTAIN KINDS OF COUGH.

Beverly Robinson (New York), calls attention to the fact that some coughs are uninfluenced by all the ordinary remedies.

I. The cough may depend on an engorged lingual tonsil. This cough is frequent, dry and paroxysmal. At times the cough is occasioned by the sensation of a foreign body lodged at the base of the tongue, like a bristle or crumb; but it is impossible to dislodge anything. Accompanying the cough there may be a continuous desire to swallow, and there may be the feeling of a constricting band round the throat—this feeling is worse at night. With the laryngoscope the glosso-epiglottidean fossa is seen to be more or less completely filled up and distended by a slightly irregular but rounded mass of lymphoid tissue, in colour sometimes deep red, sometimes pale. It may be symmetrical or not. Sometimes it covers the top of the epiglottis. Frequently this mass is crossed by large veins. These may burst and cause considerable hæmorrhage. These enlargements are most common in middle life, especially among women who suffer from menstrual derangements, constipation, rheumatism or gout.

This cough should be treated with large doses of salicylates internally, with local applications of the galvanic cautery, or of compound tincture of iodine.

II. A form of cough which occurs in children, especially at night, is due either to the dropping of thick muco-pus or muco from the naso-pharynx on or into the larynx, or to local congestion of the posterior ends of the inferior turbinated bodies, or it may be due to hypertrophy of the pharyngeal tonsils. In the first case when the tongue is depressed a mass of mucus is seen below the soft palate squeezed down by the forced contraction of the child's muscles. If the pharyngeal tonsil is enlarged, Robinson scrapes it with the finger nail. When there is no enlargement of it, a nasal spray of albolene with camphor, and applications of carbolic acid and glycerine (from 1 to 8 to equal parts of each ingredient), have been found useful. It is important to avoid overloading the child's stomach at night.

III. Hypersensitive areas in the tonsillar region, on the soft palate, or about the hyoid bone, or epiglottis, may cause cough. Such should be destroyed, while internally codein in doses of gr. $\frac{1}{10}$ more or less, frequently repeated, and terpin hydrate in tablet form of 1 or 2 grs. each, every 2 or 3 hours, are most useful.

IV. Wax, or irritations due to any cause in the ear will cause cough. Sometimes there is no wax and nothing very evidently amiss, yet it will be found that there are spots of tenderness somewhere in the meatus, most often on the posterior inferior wall near the tympanic membrane. Repeated applications of alcohol or solution of corrosive sublimate (1–1000), or of silver nitrate (1–100) will cure this condition.

There are other individuals apparently in good health who are constantly hawking, coughing, and expectorating. Usually these patients are very gouty; they may have a congested pharynx and a long uvula. Salicylates of soda and lithium salts are the best remedies for this state.

In many cases of cough of various kinds benefit is obtained from dry vapour inhalations. The best combination for this purpose consists of equal parts of menthol, camphor, and eucalyptus oil. It forms an inhalation useful both for throat and nose. Spirit of chloroform may be added to it.—*Am. Jour. Med. Sci.*, Nov. 1895.

XIII. HOW TO CURE A COUGH.

America seems to be the habitat of specialism. One of the most recent periodicals devoted to special branches of medicine or surgery is the *Journal of Orificial Surgery*. Volume III. of this periodical besides containing an article on "Orificial Philosophy," gives a most valuable and interesting account of how a cough is cured in Kansas.

Dr. F. M. Cooper while enjoying his holidays at Manitou, was consulted by a pleasant-mannered, blue-eyed Swedish lady, aged twenty-six years, who had the misfortune to be suffering from a cough and nervous troubles of various kinds.

The patient was obliged to come to the doctor's house and reside there. Then followed phosphate of iron, chloride of potassium, galvanisation of the abdomen, faradisation and dilatation of the rectum. Then galvanism was applied to the solar plexus and to both pneumogastrics, a nasal spray was employed, verbascum oil was poured into the ears, then her hymen was excised, more dilatations were performed, and faradic electricity was extensively employed; her diet was regulated, and she was given oxygen to inhale. Under this treatment she recovered "as suddenly as an avalanche falls in the Rocky Mountains, or a landslip in the Sierra Nevada." A poem by an anonymous author closes the account.

XIV. SALICYLATE OF METHYL—ABSORPTION BY THE HEALTHY SKIN.

Linossier and Lannois showed in 1894 that guaiacol was absorbed by the healthy skin without the aid of friction, and advocated its external use as an antipyretic in tuberculosis. They have recently experimented with the salicylates. Salicylic acid being but slightly volatile at the temperature of the skin, they employed salicylate of methyl, which constitutes $\frac{9}{10}$ of commercial oil of winter green. After the application of 4 grammes to the skin of the thigh, the presence of salicylic acid was demonstrated in the urine in half an hour, elimination reaching its maximum in six to nine hours. At the end of twenty-four hours 25 to 35 per cent. had been excreted. A large proportion was never found after administration of 4 grammes of salicylate of sodium by the mouth. Intestinal elimination is also considerable, the fæces containing it in large quantity. The daily elimination by the kidneys during a course of treatment is almost constant. That the drug is absorbed in the form of vapour is shown by the appearance of salicylic acid in the urine after the following procedure:—The forearm is enclosed in a double case made of two concentric cylinders of wire gauze, 1 cm. distant from each other; bandages impregnated with salicylate of methyl are wrapped round the external cylinder, and are thus at least 1 cm. distant from the skin at all points; the whole is surrounded by an indiarubber bag, and precautions adopted to prevent absorption by the lungs. In practice the indications for the external application of salicylate of methyl are the same as that for the internal use of salicylate of sodium, and in the experience of the authors the former method is as successful as the latter. Moreover, it does not interfere with digestion, and possesses the further advantage of being capable of application *loco dolenti*. The drug should be painted on the skin with a brush, and the limb covered with an impermeable tissue and wrapped in wadding for twenty-four hours. Mixture of the drug with vaseline or lard considerably retards absorption. The skin remains perfectly healthy even after repeated applications.—*Bull de l'Acad. de Méd.*, 1896, *and Quarterly Med. Jour.*, July, 1896.

XV. THE TREATMENT OF OXYURIS VERMICULARIS BY NAPHTHALIN.

Dr. Schmitz has had very good success with this drug, using it in the following manner:—After having cleared out the child's bowels with liquorice powder or with calomel and castor oil, he gives four doses of naphthalin a day for two days. The dose varies from 2½ grains for a child one and a half years old, to 6 grains for one of twelve years. It is best given in capsules, but may be mixed with sugar. After a week eight more powders are administered in the same way, and also again after another week. The naphthalin should not be given immediately after food, and fatty food should be avoided. A purgative should be given if the bowels are not quite free during the treatment.

Out of 46 cases thus treated, 26 were completely cured. In the other cases some improvement took place for a time, but subsequently the troubles due to the worms returned. In such cases Schmitz recommended a repetition of the treatment.

Naphthalin being very insoluble in water, passes through the intestinal canal without being absorbed, hence it is a very suitable substance for use as a vermifuge. It is more reliable and less poisonous than santonin.

The author in order to test the naphthalin, did not use any form of intestinal irrigation. This, however, would certainly be a useful addition to the treatment. For this purpose Unger recommends the use of liq. aluminii acetatis, a tablespoonful; water, two pints. Its astringent action allays irritation, and also helps to kill the parasites.—*Jahresb. f. Kinderheilkunde, Bd.* 39, 1895. *Heft* 2 & 3.

XVI. BISMUTH NAPHTHOLATE.

Edmond Chaumier regards beta-naphthol as the best of all intestinal antiseptics, although it has a disagreeable taste. It can be prescribed as a mixture with some bismuth salt or as a combination—beta-naphthol bismuth, which has no burning taste. The last in the alimentary canal decomposes, breaking up into naphthol and bismuth oxide. It is a grey powder, slightly aromatic, and contains 26·5 per cent of beta-naphthol. In infantile diarrhœa the fœtid stools lose their odour, the watery evacuations become thicker, and the green colour disappears under the influence of this drug. It can be administered in 2 to 5 per cent. solution in quince-syrup, of which the dose is one teaspoonful. In diarrhœas of larger children and of adults the remedy acts quickly, and with an efficient dose—75 to 150 grains in wafers—they disappear within one or two days. If the pain is severe, opium may be added. For both infants and adults it is well to continue the remedy for some time after the diarrhœa has stopped. The diarrhœa of the tuberculous is of great importance because it interferes with nutrition, emaciates the patient, causes them to lose strength, and prevents the administration of proper remedies. The remedy has been used as well in the temporary diarrhœa, which in a few days will undo the benefits of several months, and in the chronic form, which is almost continuous and constitutes the principal lesion. In the first case stop the creasote carbonate, the only active and safe drug against tuberculosis, and give naphthol bismuth, not only during the disease, but for several days after.—*Amer. Jour. Med. Sci.* April, 1896.

XVII. THE USES OF CAFFEIN.

Caffein acts on the respiratory organs directly, by inducing relaxation of bronchial spasm, and indirectly through its tonic action on the heart. Dr. Markham Skerrit directs special attention to the first of these effects. In his experience, caffein holds the first place in the treatment of spasmodic asthma. During the paroxysm five grains are ordered frequently until the bronchial spasm is relieved, after which it is given at longer intervals to prevent a relapse. When the attack comes on fairly regularly every morning and evening, a dose of five or ten grains will often prevent it altogether; or render it so slight that the patient is able to sleep through it. Caffein also relaxes the bronchial spasm which is so frequently present in acute or chronic bronchitis and emphysema and thus relieves dyspnœa, in so much as it is due to this factor. The author has observed no ill effects from its use except occasional wakefulness.—*Practitioner*, April, 1895

XVIII. ON CHLORALOSE IN DELIRIUM TREMENS.

L. Hascovec bears witness to the very good results he has obtained with this drug. On receiving 0·6 gram. (9 grains) of chloralose the patients fell asleep, and on waking they were free from delirium, and soon recovered from their illness.

Even if it were possible to obtain equally good results with chloral, still chloralose would be preferable, as it exercises absolutely no injurious effect on the heart.—*Compt. Rend. de la Soc. de Biologie*, Dec. 21, 1894.

XIX. CHLORAL.

The *Medical Record* for September 21st, 1895, contains an editorial on the subject, in which the writer says that chloral is usually considered to be essentially a hypnotic and sedative drug. It has, however, he says, quite a number of other uses. In New York it has long been employed, in small doses, as a vaso-dilator, two or three grains being given, combined perhaps with iodide of potassium. Associated with this same drug, Dr. Pal finds it of service in bronchial asthma, and the same physician has found it effective also, in doses of from ten to twenty grains, in checking bleeding from the lungs. On the same principle—that is, on the principle of its relaxing arterial tension—Dr. Cherchevsky has used it in small doses daily to counteract coldness of the feet and hands, which are such disagreeable symptoms in some cases of anæmia and neurasthenia. Dr. Pal has also recommended chloral hydrate as a laxative in various forms of chronic constipation, principally those of neuropathic patients. The dose here, however, is more than twenty grains, and, as the *Practitioner* truly says, the drug must be a dangerous one to use for such a purpose.

M. Spehn recommends chloral very highly as a local application for boils. He directs that the boil should be kept covered with a tampon of cotton well soaked in a solution of chloral hydrate, glycerine, and water. The strength of the solution is about two drachms to the ounce.

A writer in the *Semaine médicale* recommends chloral for children who are irritable and restless when suffering from scarlet fever. Another use of chloral is in certain forms of dyspepsia in which there is a sense of distension with pain in the neighbourhood of the cardiac end of the stomach. This dyspepsia usually accurs in neurotic persons and may be termed a nervous type of the disorder. According to the *Therapeutic Gazette*, a little chloral hydrate (one or two grains) dissolved in peppermint water is of service here.

Chloral is recommended by Playfair, in his text-book, for dilating the rigid cervix during the early stages of labour.

The writer is somewhat loath to give chloral any more prestige than it already has. Still, he adds, it is a drug which has been shown to be of some service in epilepsy, and which is one of the sheet-anchors in acute alcoholism; but it is also a drug whose continued use, even in rather moderate doses, is sure to injure the patient eventually. Chloral needs always to be given cautiously at first, and never for prolonged periods of time.—*N. Y. Med. Jour.*, Oct. 5th, 1895.

XX. CALOMEL.

Dr. W. Blair Stewart has made a clinical study of the use of this drug in 144 cases, chiefly of gastro-intestinal disorders. He finds that 1 grain of thoroughly triturated calomel is equivalent to 5 to 10 grains of the untriturated drug. If given for its purgative effect or for its action on the liver, $\frac{1}{10}$ of a grain triturated is administered every hour or half-hour until free evacuation occurs, or 1 grain is taken, then, if necessary, ounce doses of *liquor magnesii citratis* can be given until free action of the bowels is obtained. The drug is not a direct diuretic *per se*, but it may act indirectly to a slight extent simply by its general stimulating action upon the emunctories of the entire body, thus favouring secretion, excretion, and the elimination of intestinal ptomaïns and systemic poisons, all of which act unfavourably upon the secretory and excretory organs when present. Seventeen cases of diarrhœa, due to the ingestion of improper food, were speedily cured by $\frac{1}{12}$ of a grain of triturated calomel and one-half this quantity of podophyllin every two hours. Nine cases of so-called bilious diarrhœa in adults responded rapidly to $\frac{1}{4}$-grain doses every four hours. Sixty-eight cases in children received a saline cathartic as preliminary treatment, then $\frac{1}{100}$ of a grain each of calomel and powdered ipecacuanha was given every one to four hours with "marvellous" results. Twenty-five cases of obstinate diarrhœa, which had been running some days before consultation, responded rapidly to a combination of $\frac{1}{10}$ of a grain of calomel and 1 grain each of lacto-peptine and zinc sulphocarbolate given every two to four hours. Four cases of diarrhœa in typhoid fever were markedly benefited by the same combination. In the diarrhœa following excessive use of alcoholic liquors, excellent results were obtained from $\frac{1}{40}$ of a grain of calomel and $\frac{1}{100}$ of a grain of podophyllin every three or four hours. This clinical testimony is advanced to show the efficacy of calomel and its eliminative power as contrasted with the evil routine methods of using astringents and opium in the treatment of diarrhœas.—*Journal of the American Medical Association*, 1895, and *Amer. Jour. Med. Sci.*, Nov., 1895.

XXI. THE CLINICAL VALUE OF THE PHENYL-HYDRAZIN TEST FOR SUGAR.

Dr. R. T. Williamson, after a prolonged experience of this test, considers it valuable and useful, especially in cases in which it is doubtful whether the urine contains a small quantity of sugar or not—when, on being boiled with Fehling's solution, the fluid is unchanged at first, but after a time becomes greenish and opaque; and the question arises whether this slight reduction is due to sugar or not.

The objection has been brought against the test that it is too sensitive, that even with healthy urines small yellow crystals are formed. Williamson has observed that when the test is carried out in his method, no crystals are ever formed with normal urine—*i.e.*, the test is not too delicate for clinical use; though when the original method of using the test is carried out, undoubtedly small crystals sometimes are found, even in cases where the urine is perfectly normal.

A second objection is that it, as well as Fehling's solution, will give the sugar-reaction with glycuronic acid. That is the case; but in practice this will not lead to much, if any, difficulty, as glycuronic acid is only found in the urine while certain drugs and poisons are being taken (chloral, camphor, morphin, curara, &c.), and after chloroform narcosis. It is sometimes present in the urine of patients who are taking salicylate of sodium. If all drugs be discontinued the glycuronic acid disappears from the urine.

Williamson's "simple" method of carrying out the test is as follows:—"A test-tube of ordinary size is filled for about half an inch with hydrochlorate of phenyl-hydrazin in powder; then acetate of soda in powder or small crystals is added for another half inch. The test-tube is then half filled with urine and boiled over a spirit lamp, the powders passing into solution as soon as the liquid is heated. After the urine has reached the boiling point I always continue to boil for two minutes. The tube is left in the stand, and examined again some time afterwards. If sugar is present a yellowish deposit forms, which under the microscope is seen to consist chiefly of beautiful needle-shaped crystals of a bright sulphur yellow colour. The crystals are often found after the urine has been standing for half an hour; but after boiling the tube I have generally placed it in the test stand, and not examined the deposit until at least six or eight hours afterwards. If no sugar is present, only brownish amorphous globules, or yellowish scales are found."

The test when thus carried out is very sensitive; a diabetic urine so diluted with water as to contain only 0·015 per cent. of sugar gave no reaction with Fehling's solution and no indication of sugar by the fermentation test, but with the phenyl-hydrazin test showed a distinct deposit of long yellow crystals.—*Med. Chronicle*, Aug., 1895.

DOMESTIC ECONOMY.

THE city physician of Rochester, Dr. Seitz, while visiting a house on Caswell Court, an over-populated street, recently, discovered that a pan of dough had been placed to rise in the bed of a boy, ill of diphtheria. A quilt was thrown over the patient, and the dough. There are four other children in the family.—*Jour. A. M. A.*

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—James Little, M.D., F.R.C.P.I.

General Secretary—William Thomson, F.R.C.S.I.

SECTION OF STATE MEDICINE.

President—J. M. Redmond, M.D.

Sectional Secretary—Ninian Falkiner, F.R.C.P.I.

Friday, April 17, 1896.

The President in the Chair.

Summary of Small Matters on Preventive Principles.

Dr. Walter Bernard read a paper on this subject. [It will be found in Vol. CI., page 393.]

Dr. Edgar Flinn asked whether the Infectious Diseases Act was enforced in Londonderry. If it was there must be a great defect in the urban sanitary authorities when the children were allowed to run about the streets in a state of desquamation after scarlatina.

Dr. Doyle wanted to know the disinfectants Dr. Bernard used, and how long the process lasted.

Dr. Bewley asked whether a separate apparatus was supplied to each family where there was scarlatina.

Dr. Bernard, replying, said the Infectious Diseases Act was only partially enforced. The antiseptic he uses was eucalyptus oil and carbolic acid. This was heated, and the articles were fumigated for a considerable time. The apparatus was 6 feet long and 13 inches wide, and could be carried from one house to another after being rendered aseptic.

Criminal Responsibility in the Insane.

Dr. Conolly Norman read a paper on the above subject. He reviewed the history of the law dealing with criminal responsibility, tracing the stages by which it arrived at its present position. He pointed out that the dictum of the judges in the MacNaughten case, which had often since been accepted as an authoritative statement of the law, had, properly speaking, no such character. Neither the House of Lords who asked the questions, nor the judges who replied, could be recognised constitutionally as having any power to make laws, and the opinion of a judge or of all the judges, on an abstract point, has no more binding value than that of any other person, and does not constitute a precedent nor an authoritative interpretation of the law as it might do if enunciated from the bench on the trial of a concrete case.

The speaker proceeded to point out the injustice and absurdity of the supposed legal tests of responsibility, as applied to the insane, since a strict application of the criteria of knowledge of the nature of the act done or of knowledge of right from wrong would lead to all the insane being held responsible, with the exception of low-class idiots and a few acute cases. At the same time, Dr. Norman deprecated anything like an attempt at present to substitute medical for legal definitions in this matter. Our knowledge of insanity is still so limited that we cannot define its conditions, and to endeavour to define that which is indefinable is to risk repeating the mischief already done and laying down criteria the validity of which will soon be as disputable as that of the former ones. Owing to a variety of circumstances with which the speaker dwelt in some detail, there is not, he thought, much, if any, practical injustice done under the present state of the law, however unjustifiable it may theoretically be.

Dr. Bewley was glad to hear that Dr. Norman could not suggest any definite line upon which the law should be amended, and that it was a mistake to define insanity. Dr. Norman did not take up the question of self-control. He showed most persons knew whether a certain act was right or wrong. There were two other sets of circumstances to take into consideration. The intensity of the desire to do wrong, and the power or want of power to prevent themselves from doing wrong. There is no way of estimating the power of self-restraint. If a man wants to do right and his power of self-control is diminished or lost, he may still be unable to resist doing things which he knows perfectly well are wrong. Persons have put themselves into asylums to prevent themselves giving way to these morbid influences. Criminals who are not insane, often from education and surroundings have diminished power of self-control. A little insanity and a great deal of wickedness, and a little wickedness and a great deal of insanity, merge very much into one another. Medical men are not always the best judges of insanity. They are too much inclined to believe that criminals are to be treated and not punished. An ordinary jury, helped by a judge who is not influenced by the absurd statements of judges fifty years ago, perhaps would come to the right conclusion. In the case of a person capable of pleading, the jury has the power of deciding that he was insane at the time he committed the act. In which case he is sent to a criminal asylum.

Dr. Potter said the wills of insane people were not good in law. They are not allowed, first, on the ground of undue influence, and secondly, that the person was not of sound mind when he made the will. He quoted the Bagot case to prove this.

Dr. McWeeney wished to know in what position, with regard to sanity or insanity, Dr. Norman would place habitual criminals who, from their very earliest days, have a tendency to the committal of crime. When a person comes up for the eleventh or twelfth time charged with robbery, &c., the question should be taken into account whether the power of self-control has become so lowered that it could be said to no longer exist. A considerable number of our criminal population belong to this class, and a very important question is what is to be done with these people. A vast amount of money has to be spent in keeping them from doing harm.

Dr. Doyle said that in every individual there was a time in which he was insane. He often regretted that medical men went into the witness-box, in a case of lunacy, to give positive evidence. They should tell the judge that they could not define a case of lunacy. At one time he had charge of the criminals at Spike Island. He believed that one-third of them suffered from different forms of lunacy.

Dr. Parsons said there was one point on which Dr. Norman did not touch—namely, how far a person could be held responsible for bringing about an attack of acute mania. A short time ago a doctor in the West of Ireland, suffering from *delirium tremens*, shot a near relative. He barely escaped being hung. If insanity was pleaded would it not be better to have the person examined by four or five medical witnesses, and that the jury should be guided by them and not by the judge.

Dr. Edgar Flinn said he heard a woman appeal to a medical man to send her to an asylum to prevent her murdering a deformed child, to whom she had an intense hatred. She was subsequently sent to an asylum.

Dr. Norman, replying, said he did not dwell on the question of control which Dr. Bewley raised. It was of immense importance. "Irresistible impulse" was a term too freely used by medical men. Nobody doubted that such a thing existed. But the word impulse was rather vague; and it is impossible to say what is irresistible, because that was known only to the man to whom the impulse occurred. It was better to look out for other signs of insanity than irresistible impulse. He thought the question of a criminal being insane should be left to the jury to decide. A question of life or death should not be left to a single expert or body of experts. The chief cause of complaint of medical witnesses was that one judge wanted nothing but facts, and another wanted one's opinions. The law regarding a lunatic giving evidence was much the same as that of a lunatic making a will. He could give evidence if he understood the nature of an oath and if he had not delusions on the point at issue. He can make a will if his memory is sound and in case he has not delusions which refer to his relations or others that would be benefited by the will.

Village Water Supplies in Ireland; Parknasilla as a Winter and Spring Health Resort.

Dr. Edgar Flinn read two papers—one on "Parknasilla as a Winter and Spring Health Resort" [which will be found in Vol. CI., page 399], and the second on "Village Water Supplies in Ireland." [This paper will be found at page 110, Vol CII.]

The Section then adjourned.

SECTION OF SURGERY.

President—**Sir Thornley Stoker**, President of the Royal College of Surgeons.

Sectional Secretary—**Mr. Kendal Franks.**

Friday, May 1, 1896.

The **President** in the Chair.

Notes on Ovariotomy.

Sir William Stokes read a paper on this subject. [It will be found at page 1.]

Mr. Fitzgibbon said that the best incision was one which would let the operator's hand into the abdominal cavity with ease.

Mr. Tweedy did not think that general surgeons should perform the operation of ovariotomy. All the tumours mentioned by Sir William were large. The larger the case the more difficult was the diagnosis and the operation. In none of the cases were the symptoms mentioned of any practical value as regards the diagnosis of an ovarian tumour. A fibro-myoma would present the same symptoms, as far as measurements were concerned. A fibro-myoma often lasted for years without any menstrual show. Was the general surgeon prepared to operate on a fibro-myoma in which there might be extensive adhesions to the intestine, bladder, and ureter? Was he aseptic enough? A general surgeon meets every day with septic cases, and had his hands bathed in pus. As regards the operation for ovarian tumour there was generally no difficulty in it when once it was diagnosticated. The only way to diagnosticate an ovarian tumour was to feel the pedicle and the round ligament. The person who diagnosticated the case should operate on it. The necessary asepsis could be obtained only in a room wholly set aside for abdominal surgery and not in an ordinary operating theatre. As regards the abdominal incision, if the tumour was cystic, by tapping the cysts an enormous tumour could be brought through a small incision. The larger the incision the greater the danger of abdominal hernia, though if the operation was strictly aseptic and no stitch abscess formed, there was very little fear of abdominal hernia. In ligaturing the stump the danger was not that the stump might die, but that the stump might become adherent to the intestine, and intestinal obstruction follow. A good precaution to prevent adhesions was to suture the peritoneum over the stump. There was another danger, that the ligature might slip. The best knot to tie on a small stump was a Staffordshire knot, although even it sometimes slipped. Martin, of Berlin, ligatured the ovarian ligament as well as the stump. He wished to know how Sir William stitched up the abdominal incision.

Mr. William Thomson said the length of the incision entirely depended upon the size and character of the tumour. It was never desirable to make an incision longer than was necessary, and therefore he first made a small one and enlarged it as required. Sir William Stokes had rightly claimed that these cases should be operated upon by the general surgeons. Mr. Tweedy's claim was for the gynæcologist. But when it came to a question of septic hands, he wanted to know what position the gynæcologist held in that respect after his morning's work of examination of his cases.

If a general surgeon was not fit to open a serous cavity because of the state of his hands, then he ought not to operate at all or touch a wound. Yet, in spite of this supposed inability to have aseptic hands, septicæmia had been practically banished from general hospitals. Mr. Tweedy said that the case ought to belong to the person who diagnosticated it—meaning the gynæcologist. But this assumed that no one else could diagnosticate an ovarian tumour, and that a gynæcologist was necessarily able to operate. This whole question of diagnosis was abandoned when it was laid down that doubtful cases were to be determined by opening the abdomen. Anyone could diagnosticate under such conditions. This claim was an impossible one. The gynæcologists had been taught by the general surgeon, to whom was due the splendid developments in abdominal surgery.

Mr. Croly said that the only difficulty he found in ovariotomy was the diagnosis. His ovariotomy and hernial cases did best with rectal feeding for three days after the operation. He strongly condemned Spencer Wells' trocar and canula. Having made the abdominal incision, he punctured with an ordinary scalpel.

Mr. M'Ardle said that a general surgeon might cut into the liver, might remove the kidneys or spleen, but he was not to be allowed to touch an ovarian tumour. It was a great deal more dangerous to deal with a kidney than with an ovarian tumour. He had had to remove portions of the bladder and to interfere with the intestines and ureters, and had no calamity. He agreed with Dr. Tweedy that a long stump was a great danger on account of its adhering to the intestines. He had to open the abdomen twice on this account.

Dr. Winifred Dickson said that a gynæcologist did not meet with much pus because the general rule was that the patient was douched before being examined. The vagina did not generally contain streptococci or staphylococci, and the gonococcus was not particularly dangerous in the peritoneum. If a case was suspected to be one of cancer it was not examined on the day of an operation. As a general rule gynæcologists operated early in the morning, before going round the hospital. She thought nobody used Spencer Wells' trocar now. One point about the after-treatment, not mentioned by Sir William, was that the sooner purgatives are begun the more quickly the patient seems to recover. A great many people gave a purge twelve hours after the operation.

Mr. Lentaigne said that in cases of laparotomy a great diminution in shock could be effected by avoiding injury to the peritoneum by a foreign fluid. He now always douched and irrigated with sterile normal saline solution. In suturing the wound he first sutured the peritoneum, and then the layers of the abdominal wall with silk, and, lastly, the skin with catgut. He then sealed up the wound with celloidin, and used no dressing except to prevent it from being rubbed by the bed-clothes. The wound could be seen through the transparent celloidin. The celloidin was a great improvement in the treatment of strictly aseptic wounds. He thought it made no matter whether a man was a general surgeon or a gynæcologist; if he was a good surgeon he should do ovariotomy all right. The best means of asepticising the hands is with oxalic acid. If an operator opened the intestine, it might be easily as bad as if he had touched some pus, still he could make his hands clean and finish the operation. He could not altogether agree with Dr. Dickson in thinking the gonococcus of no harm.

Sir William Stokes, replying, said that Mr. Tweedy said that large tumours were difficult to diagnosticate. That was not in accordance with his experience. His fourth case was a very small ovarian tumour, and it was very difficult to diagnosticate. He also stated that unless the pedicle could be felt an ovarian tumour could not be diagnosticated. A considerable number of ovarian tumours had no pedicle at all. He agreed with Mr. Thomson with regard to the incision. In Germany they made very large incisions, but it increased the shock of the operation and the tendency to the formation of abdominal hernia. He always transfixed the pedicle before tying it ½ to ¾ inch above where the section was made, and he thought there was no possibility then of it slipping. In stitching the abdominal wound he did it the same way as Mr. Lentaigne, but without the celloidin dressing. If Wells' trocar was used with discretion there was no danger. With it there was less chance of the contents getting into the peritoneum.

The Section then adjourned.

SECTION OF MEDICINE.

President—Thos. W. Grimshaw, M.D., President of the Royal College of Physicians of Ireland.

Sectional Secretary—A. N. Montgomery, M.R.C.P.I.

Friday, May 8, 1896.

Dr. Walter G. Smith in the Chair.

Living Exhibits.

Dr. A. R. Parsons exhibited the following patients:—(*a*) A Case of Ataxic Paraplegia; (*b*) A Woman with Atresia Auris, Unilateral Facial Paralysis, and Loss of Sensation of Taste; (*c*) A Case of Hemichorea; (*d*) A Case of Empyema.

Case of Suppurative Pericarditis treated by Drainage.

Dr. O'Carroll read a paper on the above subject. [It will be found at page 11].

The **Chairman** said he thought Dr. O'Carroll's paper gave great encouragement to the early exploration of similar cases, as the operation seemed devoid of danger, and when performed in time gave satisfactory results.

Dr. M. A. Boyd related the particulars of a case in which he drew off four ounces of serous fluid and the patient recovered. The temperature might be normal, with pus in the pericardium. In children broncho-pneumonia often preceded the collection of fluid in the pericardium. He thought that paracentesis should be resorted to more frequently than at present in cases of pericarditis in children.

Dr. Doyle asked was the pericardium sutured to the integument in the surgical operation succeeding the operation of tapping, as if so this might account for the secondary infection of the left lung.

Dr. Heard drew attention to the remarks of Dr. Ewart, of London, that a patch of dulness might be detected at the inner side of the angle of the left scapula at the base of the left pleura as an early symptom in these cases.

Dr. Drury asked Dr. O'Carroll to mention the exact site selected for the operation, as it had been recommended some time ago to tap the pericardium as close as possible to the left margin of sternum in the 4th interspace. He had examined a large number of subjects in the dissecting-room, T.C.D., and found that in a considerable proportion of cases either the internal mammary artery or vein would be wounded by such a proceeding.

Dr. Finny said that in his long experience he had met with only one such case of suppurative pericarditis requiring operation. The result was fatal, the fault being one of omission rather than commission; as, though he tapped the pericardium 1 inch outside the sternum, between the 4th and 5th ribs, and drew off 8 ounces of purulent fluid, giving immediate relief, a second attempt to perform the same operation with a larger needle did not succeed, as for some unaccountable reason he failed to reach the pericardium The *post-mortem* examination revealed a large collection of pus in, the pericardium. He thought that pericarditis was comparatively a rare disease, and extensive pericardial effusion was very rare, and consequently the cases requiring tapping were very few; but when the symptoms did not yield to other forms of treatment tapping should be resorted to, and especially so when the contents were believed to be purulent in nature.

Dr. Carroll, in reply, said that he left the surgical details to Sir Thornley Stoker, who performed the operation for him. There was no infection of the left pleura, as the fluid which it contained was a clear serous fluid, due to the cardiac failure which occurred at the end of the patient's life. Though he had carefully examined the patient's chest he had not remarked the symptom referred to by Dr. Heard. In reply to Dr. Drury, he stated that in making his puncture he had selected a point in the fourth space a thumb's breadth internal to the nipple line.

Leucocythæmia.

Dr. Craig read a short paper on Leucocythæmia. [It will be found at page 187].

The **Chairman** asked if arsenic had been administered in this case, or if the treatment by marrow fat had been tried. He laid stress on the great advance that had been made in the microscopic examination of the blood in these cases, and thought that it should more generally be carried out in hospital practice, as the process was not a difficult one; he thought that the specific significance clinically of the various leucocytes was still very doubtful. He stated that the continuous use of arsenic in chronic cases was not devoid of danger, as peripheral neuritis might follow as a result. He mentioned the great chemical changes that occurred in the urine in this disease. The uric acid increased and xanthine bodies also increased. The normal oxidising power of the body was not seriously affected.

Dr. Boyd mentioned that he had treated a case of the lymphatic form, in which there was marked tenderness of tibiæ, sternum, and ribs. Under arsenic there was distinct improvement (proportion of leucocytes 1–300). The patient was then put on bone-marrow, but distinct relapse occurred (leucocytes 1–20). On returning to the arsenic treatment improvement again took place, and the patient returned to the country, where, however, he relapsed again, and died in three or four months.

Dr. Craig, in reply, said that he had tried arsenic, but as it caused diarrhœa and pain in the stomach, he had to cease administering it. He had thought of using marrow fat, but had to content himself with trying to keep his patient alive.

Notes on Clinical Cases.

Dr. A. R. Parsons read notes of the above. [They will be found at page 196].

The Chairman said that in such cases the heart was generally the first organ to return to its normal position. After aspiration, the effects of the diplococcus of pneumonia seemed more amenable to treatment than those of the streptococcus. The examination of the pus drawn off was therefore of the greatest consequence. He agreed with Dr. Parsons that a peculiar tympanitic note on percussion with roughness on breathing, were often the first symptoms in such cases as he related.

Dr. Doyle questioned whether the heart was not now displaced to the right, and the right lung still considerably unexpanded. He agreed that good results followed washing out the pleural cavity with antiseptic solution.

Dr. Parsons, in reply, said that he did not claim that the organs had fully recovered both position and function, but considered that the improvement, so far as it went, was remarkable.

The Section then adjourned.

SMITH'S PHYSICIANS' AND SURGEONS' VISITING LIST FOR 1897.

Messrs. Hazell, Watson & Viney (late John Smith & Co.), 52 Long Acre, London, W.C., have forwarded to us a copy of this popular and most useful pocket-book. We have already described its many excellencies on more than one occasion, and have only to state that a mature experience of its practical utility leads us to recommend it with confidence to our readers. The edition before us is No. 1 A, giving two pages a week. It is adapted for entries relating to 25 patients, and has a space intended for daily memoranda.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. Moore, B.A., M.D., Univ. Dubl.;
F.R.C.P.I.; F. R. Met. Soc.;
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Vital Statistics

For four Weeks ending Saturday, October 31, 1896.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000:—

Towns	Weeks ending				Towns	Weeks ending			
	Oct. 10.	Oct. 17.	Oct. 24.	Oct. 31.		Oct. 10.	Oct. 17.	Oct 24.	Oct. 31.
Armagh -	7·0	35·1	21·0	21·0	Limerick -	8·4	21·1	28·1	29·5
Belfast -	18·4	19·2	21·8	21·4	Lisburn -	8·5	12·8	8·5	4·3
Cork -	17·3	13·1	20·8	20·1	Londonderry	20·4	17·3	23·6	18·8
Drogheda -	30·7	17·6	4·4	17·6	Lurgan -	22·8	18·2	13·7	9·1
Dublin -	22·2	20·9	27·0	22·7	Newry -	4·0	12·1	16·1	20·1
Dundalk -	4·2	20·9	20·9	16·8	Sligo -	20·3	5·1	40·6	25·4
Galway -	22·7	18·9	22·7	26·4	Waterford -	20·0	20·0	7·5	40·0
Kilkenny -	18·9	4·7	33·0	18·9	Wexford -	9·0	18·1	18·1	9·0

In the week ending Saturday, October 10, 1896, the mortality in thirty-three large English towns, including London (in which the rate was 16·2), was equal to an average annual death-rate of 16·7 per 1,000 persons living. The average rate for eight principal towns of Scotland was 17·7 per 1,000. In Glasgow the rate was 18·9. In Edinburgh it was 13·5.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 19·1 per 1,000 of the population, which, for the purposes of this Return, is estimated at 908,567.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·4 per 1,000, the rates varying from 0·0 in ten of the districts to 4·7 in Londonderry—the 13 deaths from all causes registered in that district comprising 1 from measles, 1 from enteric fever, and 1 from diarrhœa. Among the 98 deaths from all causes registered in Belfast are 1 from measles, 2 from scarlatina, 1 from whooping-cough, 1 from simple continued fever, 1 from enteric fever, and 9 from diarrhœa.

In the Dublin Registration District the registered births amounted to 165—72 boys and 93 girls; and the registered deaths to 158—67 males and 91 females.

The deaths, which are equal to the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 23·6 in every 1,000 of the population. Omitting the deaths (numbering 9) of persons admitted into public institutions from localities outside the district, the rate was 22·2 per 1,000. During the first forty-one weeks of the current year the death-rate averaged 23·9, and was 3·2 under the mean rate in the corresponding period of the ten years 1886–1895.

Twenty-seven deaths from zymotic diseases were registered, being 2 in excess of the average for the corresponding week of the last ten years, and 11 over the low number in the previous week. They comprise 4 from scarlet fever (scarlatina), 2 from typhus, 2 from influenza and its complications, 2 from whooping-cough, 4 from enteric fever, and 9 from diarrhœa.

Twenty-nine cases of enteric fever were admitted to hospital, against 20 in the preceding week. Nine enteric fever patients were discharged, 3 died, and 121 remained under treatment on Saturday, being 17 over the number in hospital on that day week.

Thirty-four cases of scarlatina were admitted to hospital, being 8 over the admissions in the preceding week, and 1 over that in the week ended September 26. Twenty-three scarlatina patients were discharged, 2 died, and 209 remained under treatment on Saturday, being 9 over the number in hospital at the close of the preceding week.

Five cases of measles were admitted to hospital, being equal to the admissions in the preceding week. Six patients were discharged and 14 remained under treatment on Saturday, being 1 under the number in hospital on that day week.

Only 15 deaths from diseases of the respiratory system were registered, being 9 under the number for the preceding week, and 7 below the average for the forty-first week of the last ten years. The 15 deaths comprise 10 from bronchitis and 3 from pneumonia.

In the week ending Saturday, October 17, the mortality in thirty-three large English towns, including London (in which the rate was 15·7), was equal to an average annual death-rate of 16·3 per 1,000 persons living. The average rate for eight principal towns of Scotland was 17·9 per 1,000. In Glasgow the rate was 18·6, and in Edinburgh it was 17·9.

The average annual death-rate in the sixteen principal town districts of Ireland was 18·9 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·9 per 1,000, the rates varying from 0·0 in eight of the districts to 4·6 in Lurgan—the 4 deaths from all causes registered in that district comprising 1 from enteric fever. Among the 102 deaths from all causes registered in Belfast are 2 from scarlatina, 2 from whooping-cough, 2 from diphtheria, 1 from enteric fever, and 2 from diarrhœa. The 11 deaths in Londonderry comprise 2 from diarrhœa.

In the Dublin Registration District the registered births amounted to 210—122 boys and 88 girls; and the registered deaths to 148—78 males and 70 females.

The deaths, which are 4 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 22·1 in every 1,000 of the population. Omitting the deaths (numbering 8) of persons admitted into public institutions from localities outside the district, the rate was 20·9 per 1,000. During the first forty-two weeks of the current year the death-rate averaged 23·8, and was 3·2 under the mean rate in the corresponding period of the ten years 1886–1895.

The number of deaths from zymotic diseases registered was 27, being equal to the number in the preceding week, but 4 over the average for the forty-second week of the last ten years. The 27 deaths comprise 2 from scarlet fever (scarlatina), 1 from influenza, 3 from whooping-cough, 1 from ill-defined fever, 7 from enteric fever, 2 (both in the Richmond District Lunatic Asylum) from beri-beri, and 4 from diarrhœa.

The weekly number of cases of enteric fever admitted to hospital, which had risen from 20 in the week ended October 3 to 29 in the following week, fell to 15. Nine enteric fever patients were discharged, 3 died, and 124 remained under treatment on Saturday, being 5 over the number in hospital at the close of the preceding week.

The number of cases of scarlatina admitted to hospital was 33, being 1 under the admissions in the preceding week, and 7 over those in the week ended October 3. Twenty-five patients were discharged, 3 died, and 214 remained under treatment on Saturday, being 3 over the number in hospital on that day week.

Eighteen deaths from diseases of the respiratory system were registered, being 3 over the low number in the preceding week, but 6 under the average for the forty-second week of the last ten years They comprise 15 from bronchitis, 1 from pneumonia. and 1 from croup.

In the week ending Saturday, October 24, the mortality in thirty-three large English towns, including London (in which the rate was 17·1), was equal to an average annual death-rate of 17·6 per 1,000 persons living. The average rate for eight principal towns of Scotland was 18·9 per 1,000. In Glasgow the rate was 20·1, and in Edinburgh it was 16·7.

The average annual death-rate represented by the deaths registered in the sixteen principal town districts of Ireland was 23·4 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·9 per 1,000, the rates varying from 0·0 in seven of the districts to 10·2 in Sligo—the 8 deaths from all causes registered in that district comprising 1 from typhus and 1 from enteric fever. Among the 116 deaths from all causes registered in Belfast are 5 from measles, 3 from whooping-cough, 3 from simple continued fever, and 3 from diarrhœa. The 30 deaths in Cork comprise 1 from typhus, 1 from whooping-cough and 2 from diarrhœa. The 15 deaths in Londonderry comprise 1 from enteric fever and 1 from diarrhœa.

In the Dublin Registration District the registered births amounted to 160—87 boys and 73 girls: and the registered deaths to 190—97 males and 93 females.

The deaths, which are 32 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 28·3 in every 1,000 of the population. Omitting the deaths (numbering 9) of persons admitted into public institutions from localities outside the district, the rate was 27·0 per 1,000. During the first forty-three weeks of the current year the death-rate averaged 23·9, and was 3·0 under the mean rate in the corresponding period of the ten years 1886–1895.

Zymotic diseases caused 33 deaths, being 9 in excess of the average number of deaths from these causes in the corresponding week of the last ten years, and 6 over the number registered in the previous week. The 33 deaths comprise 9 from scarlet fever (scarlatina), 3 from whooping-cough, 1 from ill-defined fever, 8 from enteric fever, 5 from diarrhœa, 2 from erysipelas, and 1 (in the Richmond District Lunatic Asylum) from beri-beri.

The number of cases of enteric fever admitted to hospital was 17, being 2 over the admissions in the preceding week, but 12 under the number in the week ended October 10. Twenty-six enteric fever patients were discharged, 2 died, and 113 remained under treatment on Saturday, being 11 under the number in hospital at the close of the preceding week.

Forty cases of scarlatina were admitted to hospital, against 33 in the preceding week and 34 in that ended October 10. Thirty-one patients were discharged, 3 died, and 220 remained under treatment on Saturday, being 6 over the number in hospital on that day week.

The number of deaths from diseases of the respiratory system registered is 21, being 3 over the number for the preceding week, but 6 under the average for the forty-third week of the last ten years. The 21 deaths comprise 15 from bronchitis and 4 from pneumonia.

In the week ending Saturday, October 31, the mortality in thirty-three large English towns, including London (in which the rate was 20·2), was equal to an average annual death-rate of 19·7 per 1,000 persons living. The average rate for eight principal towns of Scotland was 18·6 per 1,000. In Glasgow the rate was 21·5, and in Edinburgh it was 15·8.

The average annual death-rate in the sixteen principal town districts of Ireland was 21·9 per 1,000 of the population.

The deaths from the principal zymotic diseases registered in the sixteen districts were equal to an annual rate of 2·1 per 1,000, the rates varying from 0·0 in seven of the districts to 12·1 in Newry—the 5 deaths from all causes registered in that district comprising 1 from scarlatina and 2 from whooping-cough. Among the 114 deaths from all causes registered in Belfast are 2 from measles, 3 from scarlatina, 3 from whooping-cough, 3 from enteric fever, and 4 from diarrhœa. The 29 deaths in Cork comprise 1 from enteric fever and 1 from diarrhœa. The 21 deaths in Limerick comprise 1 from scarlatina and 1 from diarrhœa.

In the Dublin Registration District the registered births amounted to 188—112 boys and 76 girls; and the registered deaths to 159—62 males and 97 females.

The deaths, which are 27 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 23·7 in every 1,000 of the population. Omitting the deaths (numbering 7) of persons admitted into public institutions from localities outside the district, the rate was 22·7 per 1,000. During the first forty-four weeks of the current year the death-rate averaged 23·9, and was 3·1 under the mean rate in the corresponding period of the ten years 1886–1895.

The number of deaths from zymotic diseases registered was 18, being 10 below the average for the corresponding week of the last ten years, and 15 under the number registered in the previous week. The 18 deaths comprise 3 from scarlet fever (scarlatina), 1 from influenza, 2 from whooping-cough, 1 from ill-defined fever, 3 from enteric fever, 3—all of which occurred in the Richmond District Lunatic Asylum—from beri-beri, and 1 from diarrhœa.

Twenty-one cases of enteric fever were admitted to hospital against 17 admissions in the preceding week. Fifteen enteric fever patients were discharged, 1 died, and 118 remained under treatment on Saturday, being 5 over the number in hospital at the close of the preceding week.

The cases of scarlatina admitted to hospital amounted to 45, being 5 over the admissions in the preceding week. Twenty-four patients were discharged, 1 died, and 240 remained under treatment on Saturday, being 20 over the number in hospital on that day week.

Six cases of measles were admitted to hospital against 2 in the preceding week. Eleven cases of the disease remained under treatment on Saturday, being 6 over the number in hospital on the preceding Saturday.

Thirty deaths from diseases of the respiratory system were registered, being 9 over the number for the preceding week, but 3 under the average for the forty-fourth week of the last ten years. They comprise 18 from bronchitis and 11 from pneumonia.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ *N., Long.* 6° 15′ *W., for the Month of October,* 1896.

Mean Height of Barometer, - - -	29·760 inches.
Maximal Height of Barometer (on 13th, at 11 45 p.m.), - - - - - -	30·480 „
Minimal Height of Barometer (on 8th, at 7 15 a.m.), - - - - - -	28·780 „
Mean Dry-bulb Temperature, - -	43·8°.
Mean Wet-bulb Temperature, - -	41·9°.
Mean Dew-point Temperature, - -	39·7°.
Mean Elastic Force (Tension) of Aqueous Vapour,	·250 inch.
Mean Humidity, - - - -	86·3 per cent.
Highest Temperature in Shade (on 2nd), -	63·7°.
Lowest Temperature in Shade (on 23rd), -	30·1°.
Lowest Temperature on Grass (Radiation) (on 23rd), - - - - - -	26·5°.
Mean Amount of Cloud, - - -	57·9 per cent.
Rainfall (on 22 days), - - -	2·515 inches.
Greatest Daily Rainfall (on 7th), - -	·769 inch.
General Directions of Wind, - -	N.W., N., W.

Remarks.

As in 1892 and 1895, so in 1896, October proved a very cold month. It was also inclement in the matter of wind and rainfall. Had it not been for a few warm days at the beginning, the mean temperature would have been the lowest on record within recent years. As it was, it only exceeded the record-breaking value of 44·8° in 1892 by 0·2°, and was 4·7° below the average. The rainfall was excessive along the coast south of Dublin—5·925 inches at Greystones, 5·230 inches at Killiney. In Dublin not half this precipitation occurred. This result was brought about by a low temperature inland chilling the vapour-laden northerly winds along the coast. In Dublin the screened thermometer did not once reach 50° after the 17th. Sharp thunder and hailstorms occurred on the 29th near and in this city.

In Dublin the arithmetical mean temperature (45·0°) was much below the average (49·7°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 43·8°. In the thirty-one years ending with 1895, October was coldest in 1892 (M. T.=44·8°), in 1880 (M. T.= 45·4°), and in 1885 (M. T. = 45·5°). It was warmest in 1876 (M. T. = 53·1°). In 1895 the M. T. was only 46·2°. October, 1892, beat the record for coldness, but was nearly approached by the month now under review.

The mean height of the barometer was 29·760 inches, or 0·080 inch below the corrected average value for October—namely, 29·840 inches. The mercury rose to 30·480 inches at 11 45 p.m. of the 13th, and fell to 28·780 inches at 7 15 a.m. of the 8th. The observed range of atmospheric pressure was, therefore, as much as 1·700 inches.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 43·8°, or 10·6° below the value for September. The arithmetical mean of the maximal and minimal readings was 45·0°, compared with a twenty-five years' average of 49·7°. Using the formula, *Mean Temp.*= *Min.* + (*max.* — *min.* × ·485), the value was 44·8°, or 4·7° below the average mean temperature for October, calculated in the same way, in the twenty-five years, 1865–89, inclusive (49·5°). On the 2nd the thermometer in the screen rose to 63·7°—wind, S.W.; on the 23rd the temperature fell to 30·1°—wind, W.N.W. The minimum on the grass was 26·5°, also on the 23rd. On two nights the thermometer sunk to or below 32° in the screen, and on thirteen nights frost occurred on the grass.

The rainfall was 2·515 inches, distributed over 22 days—the rainfall was below, while the rainy days were decidedly above, the average. The average rainfall for October in the twenty-five years, 1865–89, inclusive, was 3·106 inches, and the average number of rainy days was 17·6. In 1880 the rainfall in October was very large—7·358 inches on 15 days. In 1875, also, 7·049 inches fell on 26 days. On the other hand, in 1890, only ·639 inch fell on but 11 days; in 1884 only ·834 inch on but 14 days; and in 1868 only ·856 inch on 15 days. October, 1890, proved the driest on record for more than a quarter of a century at least.

There were thunderstorms on the evening of the 29th, and lightning was seen also on the night of the 21st. High winds were noted on eleven days, but attained the force of a gale on only one occasion—the 6th. The atmosphere was more or less foggy in Dublin on the 7th, 13th, 28th, and 29th. Hail fell on the 5th, 24th, and 29th; sleet on the 11th, 24th, and 29th. A lunar halo appeared on the 18th. Solar halos were seen on the 7th, 10th, and 23rd. There was an aurora borealis on the evening of the 11th.

The period ended Saturday, the 3rd, was favourable on the whole. On the morning of Thursday, the 1st, a broad band of high atmospheric pressure stretched from the Gulf of Finland south-westwards to the extreme S.W. of England and S. of Ireland. Depressions, however, had appeared both off the N.W. of Norway and over Italy and the Mediterranean. In the former country strong S.W. and W. gales set in, while rain fell heavily on the Riviera on both Thursday and Friday. In England quiet, misty weather was prevalent, and in Ireland the air became soft and genial although the tendency to showers continued, except on the east coast. Westerly (between S.W. and N.W.) winds prevailed.

Very unsettled weather prevailed over Western Europe during the week ended Saturday, the 10th. Atmospheric pressure was in a most unstable condition, and on Wednesday and Thursday an unusually deep depression passed across Ireland in a northerly direction, causing disastrous storms and heavy downpours of rain. The intensity of this cyclonic system was increased by the presence of an area of high atmospheric pressure over Central Europe at the time. Early on Sunday morning a series of V.-shaped depressions moved eastwards from Ireland to Wales and England. In their rear a brisk fall of temperature occurred, which lasted until Wednesday. On this day a very large and deep depression came in upon the Irish coasts from S.S.W. The wind first backed towards E., with squalls and heavy rain. Temperature then rose with a bound, so that at 9 p.m. the maximum of the day (58·7°) was recorded. Rain now fell in torrents—1·950 inches being measured at Greystones, Co. Wicklow, 1·18 inches at Killiney, Co. Dublin, 1·78 inches at Holyhead, 1·55 inches at Roche's Point, Co. Cork, and ·769 inch in Dublin. During the night the wind rose to a tempest from S.S.W., causing great damage along the S. and E. coasts of Ireland, in the S.W. of England, and in Wales. The gale continued to blow with lessened violence on Thursday, after which the weather improved, although remaining changeable to the end of the week. In Dublin the mean height of the barometer was 29·465 inches, pressure ranging between 28·780 inches at 7 15 a.m. of Thursday (wind, S.W.) and 29·912 inches at 9 p.m. of Saturday (wind, N.). The corrected mean temperature was 48·7°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 46·6°. On Sunday the screened thermometers rose to 60·6°; on Monday they fell to 40·0°. The rainfall was ·962 inch on six days, ·769 inch being registered on Wednesday. Hail fell on Monday. Solar halos were observed on Wednesday and Saturday. There was a slight fog on Wednesday evening.

Although cold for the time of year, the weather of the week ended Saturday, the 17th was chiefly fine in Ireland, but much less favourable in Great Britain and on the Continent. On Sunday a large but not deep depression lay over the North Sea, while an anticyclone was forming over Ireland. The result was a prevalence of cold northerly winds and showers of cold rain, hail or even snow in many places. In Dublin there was a slight snow-shower at 2 15 p.m., and hail fell heavily along the coast south of the city—in the evening an aurora borealis was seen. The anticyclone in the west continued to develop until Tuesday evening, when the barometer read 30·48 inches in Dublin. At this time a still larger system of high pressure was forming over Northern Europe, so that the barometer rose to 30·97 inches at Stockholm on Wednesday evening and to 31·08 inches at St. Petersburg on Thursday morning. Meanwhile, in rapid succession, two depressions formed over the Netherlands, causing very bad weather in the S.E. of England as well as in France and Germany. On Saturday, in addition, an area of low pressure approached Scotland from the north-westward. Under its influence, cold showery weather spread to Ireland, where a succession of dry days had been experienced earlier in the week. In Dublin the mean atmospheric pressure was 30·211 inches, the barometer ranging from 30·480 inches at 11 45 p.m. of Tuesday (wind, N.N.E.) to 29·727 inches at 9 p.m. of Saturday (wind, N.N.W.). The corrected mean temperature was 44·5°; the mean dry bulb reading at 9 a.m. and 9 p.m was 43·9°. The screened thermometers fell to 32·7° on Sunday and rose to 53·9° on Wednesday. The prevalent winds were N.W., N., and N.E. The rainfall was ·029 inch on two days, ·019 inch falling on Saturday. Up to the morning of that day 1·38 inches of rain had fallen in the South of London (Brixton) on 5 days.

The most noteworthy feature in the weather of the week ended Saturday, the 24th, was its extreme coldness, considering the time of year. Atmospheric pressure was very unstable, and falls of cold rain or sleet and snow occurred in most districts from time to time. The rainfalls on the Continent were especially heavy and frequent, so that serious floods were produced in Italy, France, Germany, and Switzerland. During Sunday an irregular area of low pressure travelled southwards across Great Britain. It caused squally N.W. to N. winds in Scotland and Ireland, and cold rain or showers in all districts. Hail fell at several stations, and thunder and lightning were reported along the English coasts. By 8 a.m. of Monday the depression-centre had reached the Bristol Channel, whence it travelled towards E.N.E. across England, passing out to sea near Yarmouth on Tuesday morning. A subsidiary disturbance in the S. came in on Tuesday afternoon, when rain again fell copiously in Dublin. On Thursday morning a trough of low pressure stretched southwestward from Lapland to the Bay of Biscay. It contained three minima, and caused thunder and hail showers over the Irish Sea and the English Channel. Sharp night frosts now set in at the Scotch, Irish, and central English stations—the sheltered thermometer falling on Thursday night to 25° at Nairn and Parsonstown; 29° at Wick, Loughborough, and Ardrossan; 30° at Leith, Shields, and in Dublin. On Friday a new disturbance encroached upon Ireland from the Atlantic, temperature rose for a while and the wind backed to W. and freshened with rain and passing showers. Sleet and hail fell on Saturday. In Dublin the mean height of the barometer was 29·547 inches, pressure varying from 30·014 inches at 9 a.m. of Friday (wind, W.N.W.) to 29·140 inches at 11 p.m. of Saturday (wind, W. by S.). The corrected mean temperature was 41·5°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 40·6°. On Monday the screened thermometers rose to 49·7°, on Friday they fell 30·1°. The rainfall was ·879 inch on five days, ·338 inch being measured on Tuesday. Northerly winds prevailed.

A continuance of cold, unsettled, showery weather has to be recorded during the week ended Saturday, the 31st. The rainfall in the Dublin district, although frequent, was not heavy except on Thursday, when a succession of thunder and hail-storms passed over the metropolis and its neighbourhood. On the Continent downpours of rain again occurred, as much as 3·08 inches of rain being measured at Biarritz on Thursday morning. During the first three days irregular areas of low atmospheric pressure lay over Great Britain and the North Sea. Thunderstorms and hail-showers were very prevalent at coast stations, especially in the English Channel, while sharp night frosts were felt at inland stations both in Great Britain and in Ireland. On Sunday a minimum of 19° was recorded in the screen at Nairn, in Scotland. On Wednesday the barometer gave way generally, and a deep depression travelled rapidly in a north-easterly direction from the S.W. of Spain towards Central Europe. At 8 a.m. of Thursday the centre of this disturbance had reached Wiesbaden. At the same time another depression formed off the mouth of the English Channel, causing a succession of thunder and hail-storms in the vicinity of Dublin on Thursday evening. Friday proved fine, but cold, rainy, dull weather prevailed on Saturday, when a depression was found over England. In Dublin the mean height of the barometer was 29·699 inches, pressure ranging from 29·250 inches at 9 a.m. of Sunday (wind, W.) to 29·911 inches at 9 a.m. of Friday (wind, N.E.). The corrected mean temperature was as low as 39·4°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 38·4°. On Tuesday the screened thermometers rose to 47·0°, on Wednesday they fell to 30·6°. The rainfall was ·602 inch on seven days, ·417 inch being measured on Thursday. The prevalent winds were N.W. and N. Hail and sleet fell on Thursday, when also thunder and lightning occurred. The air was foggy on Wednesday and Thursday.

The rainfall in Dublin during the ten months ending October 31st amounted to 22·052 inches on 165 days, compared with 12·366 inches on 123 days during the same period in 1887 (the dry year), 26·268 inches on 176 days in 1894, 23·716 inches on 146 days in 1895, and a twenty-five years' average of 22·840 inches on 160·4 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall in October amounted to 5·925 inches on 22 days. Of this quantity 1·950 inches fell on the 7th, and 1·520 inches on the 20th. The rainfall at Greystones in October, 1889, was no less than 6·935 inches on 22 days, or more than 11 times as great as the fall in October, 1890, when only ·600 inch fell on 13 days. In 1895 2·605 inches fell on 14 days. From January 1st, 1896, up to October 31st, rain fell at Knockdolian on 137 days to the total amount of 27·837 inches. In 1892, the rainfall of the corresponding ten months was 27·223 inches on 140 days; in 1893, 17·801 inches on 133 days; in 1894, 32·221 inches on 154 days; in 1895, 26·270 inches on 131 days.

At Cloneevin, Killiney, Co. Dublin, the rainfall in October was 5·230 inches on 21 days, compared with ·710 inch on 14 days in 1893, 6·460 inches on 17 days in 1894, 2·650 inches on 14 days in 1895, and a ten years' average (1885–1894) of 3·278 inches on 16 days. On the 20th, 1·28 inches fell; on the 7th and also on the 29th, 1·18 inches fell. Since January 1, 1896, 25·73 inches of rain have fallen at this station on 150 days.

THE NEW YORK POLYCLINIC.

This is the monthly organ of the Faculty of the New York Polyclinic School and Hospital, a school, we are told, for practitioners only, where the teaching is altogether clinical, and no lectures are given. We do not find how many soldiers there are in the Polyclinic army, but officers abound. The Faculty includes 30 professors, 14 adjunct professors, 31 lecturers, whose duties, (as there are no lectures), are a mystery, 24 instructors, and 58 clinical assistants. The hospital attached to the school contains 70 beds.

PERISCOPE.

A DEATH CERTIFICATE.

THE following unique document was presented to the authorities not long ago, upon the death of a United States pensioner: "I do further state that the one cause and real cause of death was from the effects of his old trouble, Chronic Rheumatism, hastened by an attack of Lagrippe which he in his weakened state had not the strength or vital life to resist.HH was gradually growing weaker, slowly dying, from the old chronic trouble, and the sudden attack of Lagrippe produced conjestion and death came more quickly than otherwise would have been the case; although it was a known fact that he was gradually dying and death would have surely resulted within a short time. Thus Chronic Rheumatism was the real cause of death, hastened by a severe attack of Lagrippe which caused conjestion of the lungs, and for want of vital life and power to act the Arterial system ceased motion. The breath of life could not pass into the lungs; the lungs conjested, filled with venous blood, and life was gone. By the loss of vital life and inherent weakness of the powers of nerve tissue, I mean for want of strength and life. The arterial system ceased motion and the breath of life could not pass into the lungs, that in connection with the spinal cord it could not connect the sensation of life longer to the vital nerve tissue, called animal life of man. Therefore it is plain that Lagrippe alone would not have proved fatal in this case had not —— been already in a weakened debilitated condition throughout his whole system from the effect of the chronic trouble of long standing, and his gradually approaching death was hastened by a severe cold and an attack of Lagrippe, which otherwise would not have had a fatal termination."—*Med. Rec.*

CONSANGUINEOUS MARRIAGES.

Il Policlinico gives an abstract of a paper read at the Congresso de Medicina Interna, in Rome, by S. Salomone-Marino, *Sui matrimoni tra consanguinei.* The author collected all available information upon consanguineous marriages, and their results, occurring in the township of Borgetto, during a period of 90 years; noting the offspring, its death-rate and its state of health, and comparing these with similar statistics for other marriages. The abstract gives neither the population of Borgetto, nor the number of either class of marriages investigated, but the conclusions are: that, except in cases in which a hereditary disease exists in the family, no injurious consequences are to be apprehended; and that such marriages do not differ from others in fecundity, or in the health or mortality of the issue. In Borgetto, it is added, consanguineous marriages have increased numerically in somewhat greater proportion, from 1800 to 1890, than the population has increased.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH—PARKIN PRIZE.

IN terms of the bequest made to the Royal College of Physicians of Edinburgh by the late Dr. John Parkin, Fellow of the College, a prize is offered triennially for the best essay on certain subjects connected with Medicine. The subject of the essay for the present period is:—"On the curative effects of carbonic acid gas or other forms of carbon in cholera, for different forms of fever, and other diseases." The prize is of the value of one hundred pounds sterling, and is open to competitors of all nations. Essays intended for competition, which must be written in the English language, will be received by the Secretary, R. W. Philip, M.D., not later than 1st January, 1898. Each essay must bear a motto, and must be accompanied by a sealed envelope bearing the same motto outside and the author's name inside. The successful candidate must publish his essay at his own expense, and present a printed copy of it to the College within the space of three months after the adjudication of the prize.

ALVARENGA PRIZE OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

THE College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, being the income for one year of the bequest of the late Señor Alvarenga, and amounting to about one hundred and eighty dollars, will be made on July 14, 1897, provided that an essay deemed by the Committee of Award to be worthy of the prize shall have been offered. Essays intended for competition may be upon any subject in Medicine, but cannot have been published, and must be received by the Secretary of the College on or before May 1, 1897. Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author. It is a condition of competition that the successful essay or a copy of it shall remain in possession of the College; other essays will be returned upon application within three months after the award. The Alvarenga Prize for 1896 was not awarded.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

Medicinal Plasters.

So long ago as June, 1881 (Vol. LXXI., page 568), we noticed approvingly the medicinal plasters prepared by Mr. William Mather, of Dyer-street, Hulme, Manchester. In the fifteen years which have since elapsed Mr. Mather's hand has not lost its cunning, judging by a collection of samples which his firm have recently submitted for our examination. The "Infirmary Plaister" is spread on brown holland and is to be had in lengths of six yards. The "Emplastrum Belladonnæ" spread on the same length of swansdown seems to be a serviceable and very superior article. It is guaranteed to be free from any foreign colouring matter, and is prepared from pure alcoholic extract of belladonna. The "Surgeons' Rubber (adhesive)" we have already commended in our columns.

Tasteless Pills.

MESSRS. ARTHUR H. COX & COMPANY, of St. Martin's Place, Brighton, have enclosed samples of their "tasteless pills." The specimens which have reached us are compound phosphorus pill and a one-grain pill of sulphate of quinine. Both are certainly tasteless, even when detained in the mouth for a considerable time. They are, we presume, readily soluble in the gastric juice, and so will meet a want which has been long felt and hitherto only in part overcome.

The Swan Fountain Pen.

MESSRS. MABIE, TODD, and BARD, of 93 Cheapside, London, E.C., and of New York, have patented an improved fountain pen which they call the "Swan." It is neat and serviceable, and does not easily clog if suitable ink is used in it. For example, a thick copying ink would cause the pen to strike work very soon, whereas a good blue-black ink will run freely through the pen and enable the writer to do his work *currente calamo.* We have much pleasure in recommending the Swan Fountain Pen to our readers as one of the best, if not the very best, of its class. It is simple in construction, and easily refilled and managed in accordance with printed directions inserted in the lid of the box containing the pen and its glass filler.

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